

CHAPTER 5 EVALUATION OF THE PROJECT

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5-1 Expected results of the Project

The below-mentioned results can be expected when the communications system for the Public Emergency Call Centre is completed under the project:

- (1) Effects to be expected by introducing the 191 emergency call system

By introducing this system, the process of handling an accident etc. will follow the procedure as set out below, after receiving an emergency call from a citizen. When an emergency telephone is dialed by a citizen, a policeman at an emergency call receiving console utilizes a digitizer and other instruments to input reception date and the number of the reception, the name of the policeman received, the name of the case and location where it occurred, the name of the police station in charge, and outline of the case into a processor.

These data are displayed on the display at the emergency call receiving console, and they are also displayed on the display on the radio patrol dispatching console.

A policeman at the radio patrol dispatching console gives a command to the police station and patrol cars concerned by referring to the contents displayed on the display and the monitor of the contents informed.

The vehicle number of patrol cars to which the command

The vehicle number of patrol cars to which the command is given, the time of giving the command, the time the cars arrived at the scene, and other data are entered by means of the digitizer in the radio patrol dispatching console.

The policeman at the radio patrol dispatching console is capable of instructing patrol cars to rush to the scene while observing detailed maps around the scene shown on the display by using a push button.

Although the present response time is about 15 minutes on the average, the above-mentioned new system will reduce it by more than seven minutes. Since the contents of the case are informed to patrol cars with more accuracy, higher effects are expected to be seen in arresting criminals and solving the case at an early stage.

It is also expected that the 191 reception work will be further improved by utilizing statistical analysis of the contents of cases.

(2) Effects to be expected by introducing radio communications system

The service area of the radio communications system will be expanded by introducing this system.

According to the estimation done on the basis of the findings of the basic study and theoretical values, this system is to cover approximately 94% of the Bangkok Metropolitan Area. The existing system covers approximately 70% of that area.

With the completion of this system, the 191 Centre, the Metropolitan Police Bureau and the patrol cars will be able to communicate with one another in the whole metropolitan area except part of the eastern rural areas. While in the existing system the radio communication range between patrol cars is limited to several kilometers because of existence of buildings, the new system will provide a range equivalent to that which currently applies to communications between fixed radio stations.

Moreover, the range of communications between policemen on patrol via hand-held radio equipment will be substantially expanded if they are relayed by the Baiyoke Tower's relay station. The policeman-to-policeman radio communication range, which is currently 1 to 2km, can be expanded to approximately 10km.

Accordingly, it is desirable that the 191 Centre should ensure orderly radio communications by effectively controlling them, as part of its radio communications traffic control measures.

(3) Effects to be expected by introducing the facsimile system

It is possible by introducing the facsimile system to give a command through a document with speed as to those contents which cannot easily be expressed verbally.

By introducing this system, all the police stations of the Metropolitan Police Bureau are connected with a

facsimile network, and it is possible to transmit documents and drawings and to give commands as to contents not easily expressed verbally in the operation of police work and in police activities.

This will facilitate communications between sub-organizations of the Bangkok Metropolitan Police Bureau. It will be utilized as a communications system very effective in such emergency police activities as emergency patrol dispatching and search for criminals. It is expected to contribute greatly to the improvements in quality of police services of the Metropolitan Police Bureau.

5-2 Evaluation of the Project

The response time will be reduced by introducing this system. In an example of Tokyo, Japan, reduction of the response time by five minutes increased the ratio of arresting criminals by about 6% (according to the Police White Paper, 1985, shown on following page)

In Bangkok, which differs somewhat from big cities in Japan in the actual situation of crimes, the shortened response time will lead to a substantial increase in the arrest rate.

The expansion of the radio communications range through this project will result in the expansion of the scope of patrol service by policemen on patrol who utilize hand-held radio equipment. It is expected that there will be a marked improvement in the use of the hand-held radio equipment for

communication system, in which a communication mode the same as that of the new system is employed, can be incorporated into the new radio communication system simply through change of frequencies.

Thus the new radio communication system is expected to contribute greatly to the betterment of police service in the metropolitan area and to the increase in the citizens' confidence in the police, and to the further advance in the police's efforts to protect the lives and properties of the citizens. In this context, this project can be rated very highly.

Relation between the arrest and the response time at the district where the 110 calls were concentrated (the police white paper, 1986)

Response time Classification	within 3 minutes	From 3 to 5 minutes	From 5 to 10 minutes
No. of patrol vehicles arriving at scene	21,882	36,098	43,124
The number of arrests	5,687	7,395	7,230
Percentage of arrests	26.0	20.5	16.8

CHAPTER 6 CONCLUSION AND RECOMMENDATIONS

CHAPTER 6 CONCLUSION AND RECOMMENDATION

6-1 Conclusion

This project was worked out by the Thai Government which is committed to the modernization of the communication system of the Public Emergency Call Centre. With the completion of this project, the new 191 call system, the radio communication system and the facsimile system will be put to practical use, as a result of which the Metropolitan Police Bureau's public services will be drastically improved.

In the new system, emergency calls from citizens will be processed rapidly and accurately. The Centre will send instructions directly to patrol cars. Upon receipt of instruction from the Centre, patrol cars will rush to the scenes of accidents or incidents. This is indeed the most important system that will help the Metropolitan Police Bureau to fulfill its basic functions.

This project is indispensable to the Metropolitan Police Bureau in fulfilling its social responsibilities as a metropolitan government agency charged with duties to maintain public order and protect the lives and properties of the citizens. The Metropolitan Police Bureau will be better equipped to handle these functions through proper operation of this system.

This has long been demanded strongly by the citizens of Bangkok. And this will enable the Metropolitan Police

Bureau to respond to emergency calls from the citizens more rapidly than before and at the same time further strengthen the citizens' confidence in the Metropolitan Police Bureau, and will also greatly contribute to the assurance of civil security and the maintenance of public peace and order.

The Royal Thai Police Department's Communications Division, which is the implementing agency of this project, apparently has a satisfactory staff of engineers and is also perfectly equipped to operate and maintain a viable control system. Also the Royal Thai Police Department is to be responsible for the budget for operation, maintenance and management of this project.

As is clear what was said above, this project is considered very significant and is therefore should be implemented under grant aid from the Japanese Government.

6-2 Recommendation

(1) Operations

Since a new system is to be adopted as a result of implementation of the project, the communication methods of the Public Emergency Call Centre will be drastically modified from conventional ones.

Therefore, the following steps are deemed necessary by the Thai side:

- o To establish standards on operating methods and procedures of the system so as to operate it smoothly and effectively.

- o To let operators fully understand the functions, operating methods, and procedures of respective systems.
- o To give operators training in handling and operating the equipment so that they may be familiar with it.
- o To operate the existing system, as a separate system in the general radio communication system apart from the new radio patrol communication system.

(2) Maintenance

Appropriate maintenance should be effected on a daily basis since a lot of equipment provided with innovative techniques and functions are supplied.

Therefore, the following steps are deemed necessary by the Thai side:

- o To let maintenance personnel fully understand the functions of all the systems.
- o To establish maintenance methods and procedures so as to realize smooth and effective maintenance of the systems and equipment.

(3) Education and Training of the Staff

1) The Necessity for education and training

It is necessary to quickly establish operation conditions so that operations system will be handled smoothly when switching over to the new system after this project is completed and for it fully exhibit functions of the system. Furthermore, it will be necessary to quickly

arrange the maintenance organization for the new system including emergency maintenance at the time of occurrence of a major accident and to maintain the reliability of the system. What is basically required to realize these is the education and training of the staff as mentioned above.

2) Method of education and training

For the education and training for the required staff for this project we are considering two methods. One whereby the operating staff of the Thai side will be received in Japan where they will gain an understanding of the actual situation of police communications in Japan to reflect it on their future operation and a second method whereby specialists in operation and maintenance will be dispatched from Japan and give instruction on the actual equipment by making use of the equipment and machinery provided. Considering the content of this education and training, it is felt that it would be most effective to implement it by combining both these methods.

Also, in principle, it is desirable that the instructions related to the operation of the system will be under the responsibility of specialists dispatched from Japan and those related to the maintenance will be under the responsibility of the technical staff of the manufacturing companies.

3) Content of the education and training

The following 3 points a, b and c have been given as the

content of the education and training.

It is considered desirable that a be implemented by the technicians of manufacturing companies following the set up of new systems and that b and c be implemented by the specialists dispatched from Japan under the technical cooperation.

a. Training prior to switchover for the necessary maintenance staff.

The training shall be carried out about one month prior to the time of switchover to a new system by requiring the participation of the on-site maintenance staff in the operations for the on-site adjustments and tests, circuit tests and receipt tests of the car-installed and portable radios and other tests.

However, the technical staff of the companies having manufactured the system equipment shall be responsible for this training.

b. Training prior to switchover for the necessary operating staff

The training shall begin about one month prior to the time of switchover to a new system and operating staff will acquire skill in the method of operation by the time of switchover. The training will be implemented after classifying the target staff into the staff necessary for the 191 Centre and the staff necessary for the Metropolitan Police Department and the police

stations. The former in particular will be especially trained on each type of console, each type of display device and the like, using the actual equipment. With respect to radio order call methods, the training is so that the radio call system can operate in an orderly manner including at times when traffic increases upon the occurrence of emergency cases.

c. Education following switchover for the executive staff

After the completion of this project, switchover to the new system shall be done and the new operation shall begin.

We shall again provide advice and instruction on the system structure, functions, future operation organization and maintenance for this system.

Table 6-1 provides an outline of the above described education and training.

Table 6-1

Education and Training Plan for the Staff
Necessary for this Project

Classification	Instructor	Target Persons	Period	Details
a. Maintenance training prior to switchover	technicians of manufacturing companies	Maintenance staff (Maintenance Centre, 191 Centre)	1 month before switchover to switchover	On-site adjustment tests Field tests for wireless wave intensity Receipt inspections of auto radios Receipt inspections of portable radios
b. Operations training prior to switchover	dispatched specialists (about 3 persons)	Operating staff (191 Centre staffs)	1 month before switchover to switchover	In 191 Centre Each type console Each type display equip. Handling method Facsimiles Manual for radios order call system
c. Education of executives after switchover	dispatched specialists (about 3 persons)	Operating staff (Each Metropolitan Police Div. each police station, etc.) Operation and maintenance staff (Executives of 191 Centre and maintenance centre)	1 month before switchover to switchover	Facsimile handling method Manual for radios order call system System structure and functions Study of operating standards Study of maintenance standards Management organization within Japan

APPENDIX

1. Minutes of Discussion

1-1 Basic Design Study

MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY
OF
THE PUBLIC EMERGENCY CALL CENTRE (COMMUNICATION SYSTEM)
MODERNIZATION PROJECT
IN
THE KINGDOM OF THAILAND

In response to the request by the Government of the Kingdom of Thailand, the Government of Japan decided to conduct a basic design study for the Public Emergency Call Centre (Communication System) Modernization Project (hereinafter referred to as "the Project"), and entrusted the study to the Japan International Cooperation Agency (JICA). JICA sent the Basic Design Study Team headed by Mr. MASA AKI KATOH, DIRECTOR, COMMUNICATIONS TECHNICAL RESEARCH OFFICE, COMMUNICATIONS BUREAU, NATIONAL POLICE AGENCY, from January 25th to February 13th, 1988.

The Team had a series of discussions on the Project with officials of the Government of Thailand, and conducted a field survey in Bangkok metropolitan area.

As a result of the study both parties agreed to recommend to their respective Governments that the major points of understanding reached between them, attached herewith, should be examined toward the realization of the Project.

Bangkok, February, 4th, 1988.

Masaaki Katoh

MASA AKI KATOH

Leader

Basic Design Study Team
Japan International
Cooperation Agency (JICA)

Pol. Maj. Gen. Paithon Waichanya

Pol. Maj. Gen. PAITON WAICHANYA

Commander

Police Communication Division
Royal Thai Police Department
Ministry of Interior

中村俊男

TOSHIO NAKAMURA

Coodinator

Basic Design Study Team
JICA

Niroth

Pol. Maj. Gen. NIROTH VECHASILP

Assistant Commissioner
Metropolitan Police Bureau

ATTACHMENT

1. Title of the Project

The title of the Project is " The Public Emergency Call Centre (Communication system) Modernization Project."

2 . The Objective of the Project

- (1) The objective of the Project is to establish the new Public Emergency Call System, and to improve the existing 191 operation by maintaining the public in close contact with the police through 24-hours emergency telephone call, and then to assure maximum protection of life and property of the people.
- (2) The new Public Emergency Call System is to consist of following three systems; Public Emergency Call System (191 call system), Radio Communication System, and Facsimile System.
- (3) Thai Side stated that the new Public Emergency Call System will never be used in riot control operation.

3. Executing Agency for the Project

- (1) Administrative Agency for the Project is the Royal Thai Police Department of Ministry of Interior.
- (2) Operating Agency for the new Public Emergency Call System after its introduction is the Metropolitan Police Bureau.

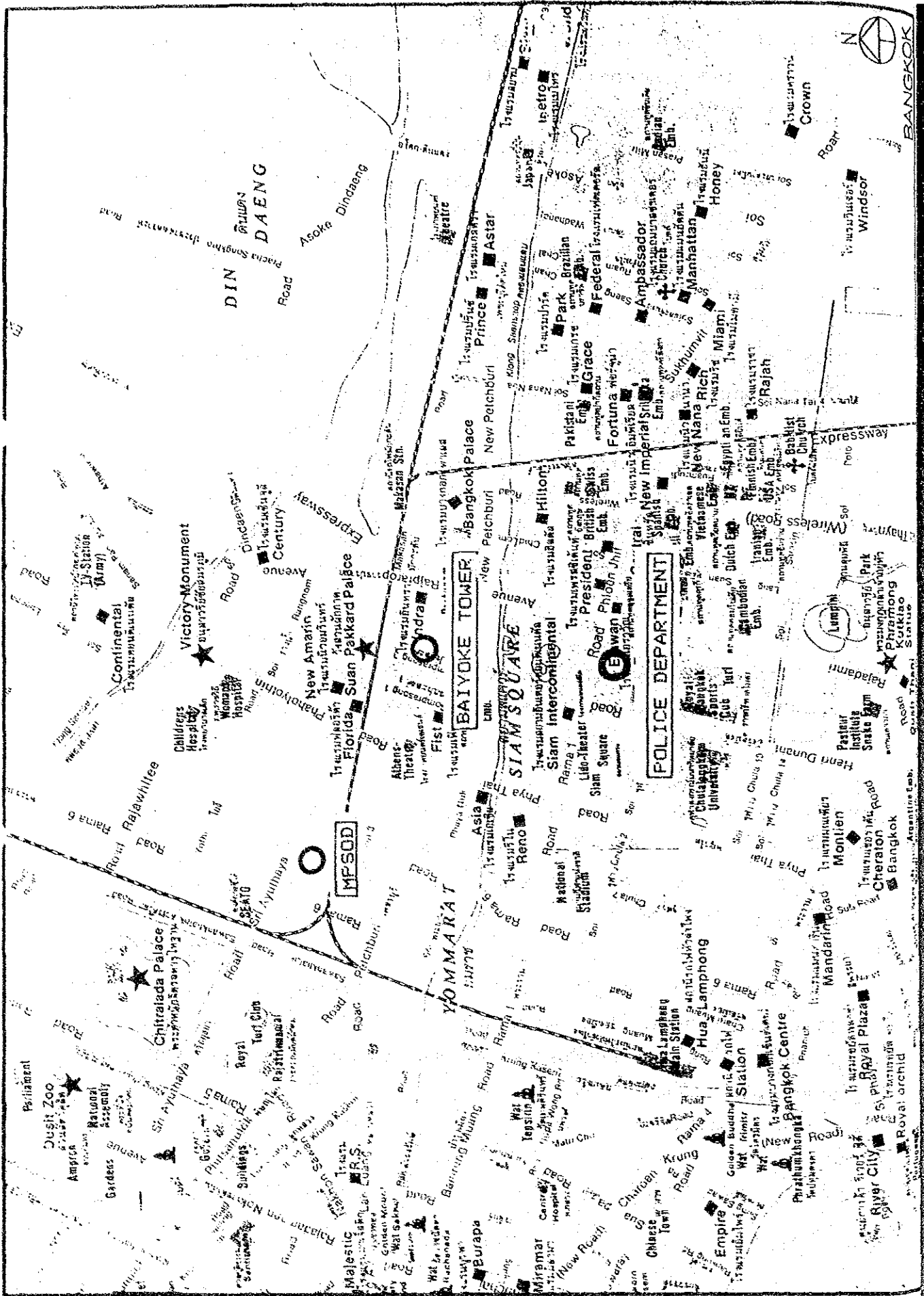
4. Project Site

- (1) The equipment for the new System is to be installed in the following buildings; the Royal Thai Police Department Building, the Bangkok Metropolitan Police Bureau Building, the Baiyoke Tower, and police stations. These sites are shown in Annex 1.

Thai Side stated that the Baiyoke Tower for the site is under negotiation, in case that the negotiation is in failure, the other site will be set by the responsibility of Thai Side. The site for the main relay station is to be clarified up to 29th, February, 1988.

- (2) The proposed sites for the specific equipment is shown in Annex 2.
5. The major equipment for the Project requested by the Government of Thailand are listed in Annex 2.
6. The Team will convey to the Government of Japan the desire of the Government of Thailand that the Government of Japan takes necessary measures to cooperate in implementing the Project and provide necessary equipment within the scope of Japan's Grant Aid Program.
7. The Thai Side has understood the system of Japan's Grant Aid and necessity of consulting services of a Japanese consulting firm for the implementation of the Project.
8. The Government of Thailand will undertake to provide the necessary measures as listed in Annex 3 on condition that the Grant Aid by the Government of Japan is extended to the Project.
9. The Government of Thailand will undertake to provide the necessary budget and personnel for the proper and effective operation and maintenance of equipment provided under the Grant Aid.

ANNEX 1 THE LOCATION PLAN OF THE PROJECT



ANNEX 2 MAJOR EQUIPMENT REQUESTED FOR THE PROJECT

1. The major equipment for the Project

System	Equipment	Quantity	Proposed Site	
1. Public Emergency Call System (191 Call System)	1. Map display	11 set	Bangkok Metropolitan Police Bureau	
	2. Emergency call receiving console	6		
	3. Radio patrol dispatching console	3		
	4. Supervisory console	1		
	5. Emergency operation control console	1		
	6. Character display	11		
	7. Fixed radio equipment	5		
	8. Multi-channel logging recorder	1		
	9. Emergency power supply	1		
	10. Police activity operation display	1		
2. Radio Communication system	Relay Station (Main)		Baiyoke Tower	
	1. Aerial equipment	1 set		
	2. Relay equipment	5		
	3. Control and monitor equipment	1		
	4. Emergency power supply	1		
	Relay Station (Back-up)			
	1. Aerial equipment	1 set		
	2. Relay equipment	5		
	3. Control and monitor equipment	1		
	4. Emergency power supply	1		
	Fixed radio equipment	Total 80 sets		
		7		Bangkok Metropolitan Police Bureau
		1		NBMD
	1	SBMD		
	1	TMD		

System	Equipment	Quantity	proposed Site
		1	PATUMWAN
		26	Police Station (N) one each
		16	Police Station (S) one each
		27	Police Station (T) one each
	Mobile radio equipment	Total 250 sets	
		112	191 Patrole car
		52	Police Station (N) two each
		32	Police Station (S) two each
		54	Police Station (T) two each
	Hand-held radio	Total 220 sets	
		82	Bangkok Metropolitan Police Bureau Bld.
		52	Police Station (N) two each
		32	Police Station (S) two each
		54	Police Station (T) two each
3. Facsimile System	Facsimile	Total 76 sets	
		3	Bangkok Metropolitan Police Bureau Bld.
		26	NBMD one each
		16	SBMD one each
		27	TMD one each
		3	HEADQUARTER (NBMD, SBMD, TMD)
		1	PATUMWAN

- Note: (1) Quantities of the identical equipment can be reduced to adequate ones within the budget to be allocated for the Project.
- (2) The necessary and proper accessories, attachments and spare parts are to be included in the equipment.
- (3) The proper training services for operations is to be included in the equipment if necessary.
- (4) The installation works of the equipment is to be borne by the Japan's Grant Aid.
- (5) Among the above equipment, Multi-channel logging recorder and Facsimile are lower priority.

2. Mobile Radio System

- (1) Thai Side stated that the new radio communication system is expected to be provided such five radio communication systems as might be necessary for four divisions radio systems of MPSOD, NBMD, SBMD, TMD and one common channel radio system, and, the electric waves for the above new radio communication system is to be VHF bands waves as follows. This VHF band waves system is to be used for the Project, and the UHF band waves system is to be used for the purpose of riot control.

Assigned Frequencies:

166.550 MHz	171.550 MHz
166.600	171.600
166.850	171.850
166.900	171.900
166.950	171.950

- (2) Thai Side stated that the digital type radio communication system is better, but the analogue type radio communication system is also acceptable when the analogue ones is recommended as the result of the comparative study between digital ones and analogue ones.

ANNEX 3 MESURES TO BE TAKEN BY THAI SIDE

1. To remodel the present 191 call centre room for the installation of the new system, if necessary.
2. To prepare the facilities of electricity, sound proofing, lighting, and other incidentals before commencement of installation work, if necessary.
3. To load the radio communication equipment to vehicles .
4. To maintain and use properly and effectively the equipment purchased by the Grant.
5. To bear commisions to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement.
6. To ensure prompt unloading, tax exemption, custams clearance at port of disembarkation in Thailand and prompt internal transportation theirin of the products purchased under the Grant.
7. To exempt Japanese nationals from custom duties, internal taxes and other fiscal levies which may be imposed in Thailand with respect to the supply of the products and services under the verified contracts.
8. To accord Japanese nationals whose services may be required in connecton with the supply for the products and the services under the verified contracts such facilities for the performance of thier work.
9. To provide general furniture required for the administrative purpose.
10. To bear all the expenses other than those to be borne by the necessary for the Project.

1. Minutes of Discussion
1-2 Draft Report

MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY
OF
THE PUBLIC EMERGENCY CALL CENTRE (COMMUNICATION SYSTEM)
MODERNIZATION PROJECT
IN
THE KINGDOM OF THAILAND

In response to the request of the Government of the Kingdom of Thailand for Grant Aid for the Public Emergency Call Centre (Communication System) Modernization Project (hereinafter referred to as " The Project "), the Government of Japan decided to conduct a basic design study on the Project and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to the basic design study team headed by Mr. MASA AKI KATOH, Director, Communications Technical Reserch Office, Communications Bureau, National Police Agency, from January 25 to February 13, 1988.

As a result of the study, JICA prepared a draft report and dispatched a team headed by Mr. MASA AKI KATOH, Director, Chiba Prefectural Communications Department, Kanto Regional Police Bureau, to explain and discuss it from April 20 to April 27, 1988.

Both parties had a series of discussions on the draft report and agreed to recommend their respective Governments that major points of understandings reached between them, attached herewith, should be examined towards the realization of the Project.

Bangkok, April 26, 1988

Masaaki Katoh

MASA AKI KATOH
Leader
Basic Design Study Team
Japan International
Coopration Agency (JICA)

中村俊男

TOSHIO NAKAMURA
Coodinator
Basic Design Study Team
(JICA)

Police Maj Gen P. Waichanya

Pol. Maj. Gen. PAITON WAICHANYA
Commander
Police Communications Division
Royal Thai Police Department
Ministry of Interior

Niroth

Pol. Maj. Gen. NIROTH VECHASILP
Assistant Commissioner
Metropolitan Police Bureau

ATTACHMENT

1. The Thai side agreed in principle on the basic design proposed in the Draft Final Report with minor alterations, which will be incorporated in the Final Report.
2. The Thai side ensured the provision of the necessary budget for the works such as the remodeling of the 191 Centre and other sites, maintenance and operation expenses for the new communication system in the Project.
3. The Japanese side stated the necessity of using the Japanese consulting firm for the Project implementation including the detailed design and supervision of the remodeling works of the 191 Centre and other sites.
Thai side agreed on the use of the Japanese consulting firm as stated by Japanese side.
4. The Thai side requested to provide the measuring/test equipment as follows:
 - (1) Test equipment for the 191 emergency call system (higher priority)
 - (2) Test equipment for the radio communication system (lower priority).

The Japanese side stated that the request for the measuring/test equipment would be examined whether to provide or not. If the budget is sufficient, the measuring/test equipment will be included in the Project .

5. The Final Report (10 copies in English) will be submitted to the Thai Side up to the end of June, 1988.

2. Members List of the Basic Design Study Team

2-1 Basic Design Study

Name	Assignment	Profile
<u>KATOH</u> MASA AKI	Leader	Director, Communications Technical Reserch Office Communications Bureau, National Police Agency
<u>TANURA</u> MASAYUKI	Public Emergency Call system	Chief, Radio Maintenance Section, Radio Communications Division, TOKYO Metropolitan Police Communications Department.
<u>NAKAMURA</u> TOSHIO	Coodinator	Deputy Head, Second Basic Design Study Division, Grant Aid Planning and Survey Department, JICA
<u>KITAGAWA</u> AKIO	Project Manager and Communications Planning	Security Electronics and Communications Technology Association.
<u>NAKAMURA</u> TOSHIRO	System Design	Security Electronics and Communications Technology Association.
<u>WATANABE</u> AKIRA	Equipment Planning (Telecommunication)	Security Electronics and Communications Technology Association.
<u>KAMEDA</u> KO	Operation Planning	Security Electronics and Communications Technology Association.
<u>KAWAMURA</u> MASASHI	Equipment Planning (Power)	Security Electronics and Communications Technology Association.
<u>OGAWA</u> HOZUMI	Architectural Design	Security Electronics and Communications Technology Association.
<u>HATSUNAGA</u> TSUNBAKI	Cost Estimation	Security Electronics and Communications Technology Association.

* under line indicates Surname

2. Members List of the Basic Design Study Team

2-2 Draft Report

Name	Assignment	Profile
<u>KATOH</u> MASAOKI	Leader	Director, Chiba Prefectural Communications Department Kantoh Regional Police Bureau.
<u>TAMURA</u> MASAYUKI	Public Emergency Call System	Chief of Planning Section, International Communication Centre, Communication Control Division, Communication Bureau, National Police Agency
<u>NAKAMURA</u> TOSHIO	Coordinator	Deputy Head, Second Basic Design Study Division, Grant Aid Planning and Survey Department, JICA
<u>KITAGAWA</u> AKIO	Project Manager and Communications Planning	Security Electronics and Communications Technology Association.
<u>NAKAMURA</u> TOSHIRO	System Design	Security Electronics and Communications Technology Association.

Name	Assignment	Profile
<u>WATANABE</u> AKIRA	Equipment Planning (Telecommunication)	Security Electronics and Communications Technology Association.
<u>OGAWA</u> HOZUMI	Architectural Design	Security Electronics and Communications Technoligy Association.

※ under line indicates Surname

3. Itinerary of the Basic Design Study Team

3-1 Basic Design Study

from Jan.25th to Feb. 13th, 1988 (20days)

As to Mr. Katoh (leader), Mr. Tamura, Mr. Nakamura

from Jan.25th to Feb. 5th, 1988 (12days)

Date	Day	Contents of Study
1.	Jan.25 (mon)	.Arrival at Bangkok
2.	Jan.26 (Tue)	.Courtesy Call and meeting with Embassy of Japan and JICA Thailand Office. .Courtesy Call and discussion with the Royal Thai Police Department.
3.	Jan.27 (wed)	.Discussion with the Royal Thai Police Department and explaining the outline of the Basic Design Study Based on Inception Report. .Courtesy call and Discussion with the Metropolitan Police Bureau. .Checking and preparation of measuring Equipment.
4.	Jan.28 (Thu)	.Internal meeting of Basic Design Study Team. .Discussion with the Royal Thai Police

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| | Department. |
| | .Survey of the Baiyoke Tower. |
| | .Survey of the Bangkok Metropolitan Police Department 191 Centre, and investigation of the Compressive strength of floor concrete. |
| 5. Jan.29 (Fri) | .Preparation of measuring Equipment for the investigation. |
| | .Courtesy Call to Director General, the Royal Thai Police Department. |
| | .Survey and investigation of the Southern Bangkok Metropolitan Police Division, Bangrak Police Station, Patrol Car Centre. |
| | .Survey of 191 Centre
(The Compressive Strength of Floor concrete, The Structure of Bldg.) |
| 6. Jan.30 (Sat) | .Internal meeting of the Team. |
| | .Data arrangement. |
| 7. Jan.31 (Sun) | .Internal meeting of the Team. |
| | .Data arrangement. |
| 8. Feb.1 (Mon) | .Measurement, at Baiyoke Tower of the electric field intensity of the mobile Radio around the area of the Bangkok city. |

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| | <ul style="list-style-type: none"> . Survey of the 191 Centre(Interior) . Measurement of the Emergency Call Traffic at the 191 Centre. |
| 9. Feb.2 (Tue) | <ul style="list-style-type: none"> . Survey of the 191 Centre(Airconditioner, Power Facilities) . Measurement of the Emergency Call Traffic at the 191 Centre. . Measurement, at the Baiyoke Tower, of the electric field intensity of the Mobile Radio around the area of the Bangkok city. . Investigation of the Data at JETRO. . Discussion with DTEC. . Making the Minutes of Discussion. |
| 10. Feb.3 (Wed) | <ul style="list-style-type: none"> . Discussion on the Minutes with the Royal Thai Police Department. . Survey of the 191 Centre(Strength of the Floor) . Measurement of the Emergency Call Traffic at the 191 Centre. . Measurement of the Electric Field intensity of the Mobile Radio Around the area of the Bangkok city, at the Baiyoke Tower. . Survey of the Parusakawan Maintenance |

	Centre.
11. Feb.4 (Thu)	<ul style="list-style-type: none"> . Discussion on the Minutes with the Royal Thai Police Department. Signature and exchange of the Minutes of Discussion. . Reporting to JICA Thailand Office. . Reporting to the Embassy of Japan. . Survey of the 191 Centre(Structure of the Machine Room and Electric Power Room) . Measurement of the Emergency Call Traffic at the 191 Centre.
12. Feb.5 (Fri)	<ul style="list-style-type: none"> . Mr.Katoh(Leader),Mr.Tamura,Mr.Nakamura (Coordinator),Leave for Tokyo. . Observation of Parusakawan Maintenance Centre. . Measurement of the Emergency Call Traffic at the 191 Centre.
13. Feb.6 (Sat)	<ul style="list-style-type: none"> . Internal meeting of the Team. . Data arrangement. . Measurement of the Emergency Call Traffic at the 191 Centre.
14. Feb.7 (Sun)	<ul style="list-style-type: none"> . Internal meeting of the Team. . Data arrangement.
15. Feb.8 (Mon)	<ul style="list-style-type: none"> . Discussion with the Royal Thai Police Department. (Questionnaire)

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| | <ul style="list-style-type: none"> . Survey of the 191(Equipments and Facilities arrangement,Cable installation) . Listen to the Japanese industrial Company about the Circumstances. |
| 16. Feb.9 (Tue) | <ul style="list-style-type: none"> . Internal meeting of the Team,and Examination of the Measured Data. . Observation of new building of the Royal Thai Police Department. . Making of drawings of each Site. . Listen to the TOT about the Circumstances. |
| 17. Feb.10 (Wed) | <ul style="list-style-type: none"> . Making of drawings of each Site. . Discussion with the Royal Thai Police Department. (Technical Problem of Equipments and Facilities) . Survey of the Telephone cable in the 191 Centre. |
| 18. Feb.11 (Thu) | <ul style="list-style-type: none"> . Discussion with the Royal Thai Police Department, and sign and exchange the Memorandum. . Observation of the facilities and construction state of the Education and Public Services Broadcasting Station Channel 11. . Visiting to the Japanese Chamber |

	arrangement, Cable installation)
	. Listen to the Japanese industrial Company about the Circumstances.
16. Feb.9 (Tue)	. Internal meeting of the Team, and Examination of the Measured Data. . Observation of new building of the Royal Thai Police Department. . Making of drawings of each Site. . Listen to the TOT about the Circumstances.
17. Feb.10 (Wed)	. Making of drawings of each Site. . Discussion with the Royal Thai Police Department. (Technical Problem of Equipments and Facilities) . Survey of the Telephone cable in the 191 Centre.
18. Feb.11 (Thu)	. Discussion with the Royal Thai Police Department, and sign and exchange the Memorandum. . Observation of the Facilities and construction state of the Education and Public Services Broadcasting Station Channel 11. . Visiting to the Japanese Chamber of Commerce and Industry and listen to the circumstances.

19. Feb.12 (fri)	. Internal Meeting of the Team talking about results of investigation. . Reporting to the Embassy of Japan and JICA Thailand Office.
20. Feb.13 (Sat)	. Departure from Bangkok.

3. Itinerary of the Basic Design Study Team

3-2 Draft Report

from April 20th to 27th, 1988 (8days)

As to Mr. Katoh (leader) from April 23rd to 27th, 1988 (5days)

Date Day	Contents of Study
1 April 20(Wed)	<ul style="list-style-type: none"> • Arrival at Bangkok.
2 April 21(thu)	<ul style="list-style-type: none"> • Courtesy Call and meeting with Embassy of Japan and JICA Thailand Office. • Courtesy Call and discussion with the Royal Thai Police Department.
3 April 22(fri)	<ul style="list-style-type: none"> • Discussion with the Royal Thai Police Department and explaining the Basic Design Study Based on Draft Report.
4 April 23(sat)	<ul style="list-style-type: none"> • Internal meeting of the team • Data arrangement • Mr. Katoh(leader) arrival at Bangkok
5 April 24(sun)	<ul style="list-style-type: none"> • Internal meeting of the Team • Data arrangement
6 April 25(mon)	<ul style="list-style-type: none"> • Discussion with the Royal Thai Police Department and explaining the Basic Design Study Based on Draft Report. • Survey of the Royal Thai Police Department Building (Back-up Relay Station), Baiyoke-Tower(Main Relay Station), 191 Centre.

7 April 26(tue)	<ul style="list-style-type: none"> • Signeture and exchange of the minutes of Discussion. • Internal meeting of the team talking about results of investigation. • Reporting to JICA thailand Office • Reporting to Embassy of Japan
8 April 27(wed)	<ul style="list-style-type: none"> • Departure from Bangkok.

4. Members List Authorities Concerned

NAME	POSITION
1. ROYAL THAI POLICE DEPARTMENT	
POL.MAJ.GEN. PAITON WAICHANYA	Commander Police Communications Division
POL.COL. CHUCHRT RATTANALIAM	Deputy Chief Police Communications Division
POL.COL. VICHEN BOONSIRI	Superintendent Police Communications Division
POL.LT.COL. SURAT VIRATHIAN	Deputy Superintendent Police Communications Division
POL.LT.COL. SANGCHAI PORNSIWAKUL	Inspector Police Communications Division
POL.LT.COL. SOMCHAI PATANAKUMJORN	Deputy Superintendent Police Communications Division
POL.LT.COL. ARTHIT INTAVENKIN	Inspector of Telephone Section Police Communications Division
POL.CAPT. SUCHART KANGWARNJIT	System Engineer Police Communications Division

PARADA BUNRUNGSOOK	Commandes of Financial Division
PARADA CHONURUK	Dupty Chief of Foreign Affair
2. METROPOLITAN POLICE BUREAU	
POL.MAJ.GEN. NIROTH VECHASILP	Assistant Commissioner Metropolitan Police Bureau
POL.MAJ.GEN. CHAMTOON SVASTI-XUTO	Commander Metropolitan and Sepecial Operation Division
POL.COL. CUOCHAST RATTANALTEM	Deputy Commander Metropolitan Police Bureau
POL.LT.COL. SIRIPONG	Project Controller P.S.O.D.General Staff Sub Division
POL.LT.COL. PITAYA	P.S.O.D.Communication Control Sub Division
POL.LT.COL. SUPOT BOONTHRONG	Dupty Superintendent Chief Inspector

POL.LT.COL. CHAWALIT CHOMPUHAVEEP	Patrol and Special Operation Division
POL.LT.COL. SAMUT	Chief of Maintenance Centre Engineer
POL.CAPT. SOMKID	P.S.O.D.Patrol Sub Division
POL.CAPT. DUSIT SUNGKMEK	Patrol and Special Operation Division
3. EMBASSY OF JAPAN	
<u>ABE</u> TOMOYUKI	Concilor of the Embassy
<u>KAINUMA</u> KOHJI	First Secretary
<u>IWAHASHI</u> OSAMU	First Secretary
<u>HIROHATA</u> SHIRO	First Secretary
<u>KAWANOBE</u> HIROSHI	Second Secretary

4. Other

TAKAHASHI MASAYUKI	Deligation of JICA Specialist
SIKRIT HIRANMAS Ph.D,P.E.	Structural Engineer Dept.of Construction Technology, King Mongkut's Institute of Technology
SUNEE JERAWATTANAVONG	Secretary Baiyoke TOWER

※ Under Line Indicates Surname

5. Result Data of the Study

- (1) Input level of 140MHZ ~170MHZ at Baiyoke Tower
- (2) Assigned frequency of the 191 Centre(including expected frequency)
- (3) Assigned frequency of the Baiyoke Tower (Main Relay Station, including expected frequency)
- (4) Assigned frequency of the Royal Thai Police Department (Back-up Relay Station, including expected frequency)
- (5) Telephone Talking time distribution bar-graph at 191 centre
- (6) Telephone Call Number Distribution bar-graph at 191 centre

(1) Input level of 140MHz ~170MHz at Baiyoke Tower

1/2

frequency(MHZ)	input level(dbm)	frequency(MHZ)	input level(dbm)
138.2	-60	152.55	-70
140.2	-55	.6	-45
.4	-60	.75	-32
141.4	-58	.9	-53
142.5	-50	153.05	-47
142.8	-50	.1	-42
143.7	-52	.15	-58
144.8	-55	.2	-40
.95	-65	.3	-40
147.6	-65 (A)	.55	-60
149.2	-60	153.6	-40
.4	-55	.65	-40
.55	-50 (A)	.7	-50
.65	-50	.9	-65
.75	-38	154.1	-45
150.3	-42	.15	-75
.5	-70	.3	-52
.7	-70	.35	-70
151.15	-40	.6	-60
152.1	-55	.8	-50
152.4	-49	.95	-50

(A): indicate continuous radiation

frequency(MHz)	input level(dBm)	frequency(MHz)	input level(dBm)
155.2	-60	164.4	-43
.8	-40	.65	-45
.9	-65	.8	-70
.95	-55	165.1	-75
156.65	-70	.95	-45
157.65	-60	168.65	-45 (A)
.7	-40	170.1	-50
158.1	-70	.15	-52
.3	-40	.9	-65
159.75	-58	.95	-55
160.65	-30	171.1	-55
161.8	-70	.25	-60
162.3	-45	.45	-55
.35	-45	.5	-50
.5	-65	.65	-65
.9	-70	175.28	-35 (A)
163.1	-45		
.45	-70		
.6	-50		
.65	-58		
163.85	-45		

(2) Assigned frequency of the 191 Centre
(including expected frequency)

Transmitt- ing frequency	note	receiving frequency (MHZ)	note
142.000	40W volunteer	142.000	
154.800	40W city Bureau	154.800	
164.450	5W water service	164.450	
169.000	40W electric power company	169.000	
171.550	expected frequency(1)	166.550	expected frequency(1)'
.600	" (2)	.600	" (2)'
.850	" (3)	.850	" (3)'
.900	" (4)	.900	" (4)'
.950	" (5)	.950	" (5)'
166.550	expected frequency(1)'	171.550	expected frequency(1)
.600	" (2)'	.600	" (2)
.850	" (3)'	.850	" (3)
.900	" (4)'	.900	" (4)
.950	" (5)'	.950	" (5)
153.150	TBMD channel	153.150	
153.100	SBMD channel	153.100	
153.050	NBMD channel	153.050	
153.350	common channel	153.350	
166.650	Portable receiver	166.650	

(3) Assigned frequency of the Baiyoke Tower
 (Main Relay Station, including expected frequency)

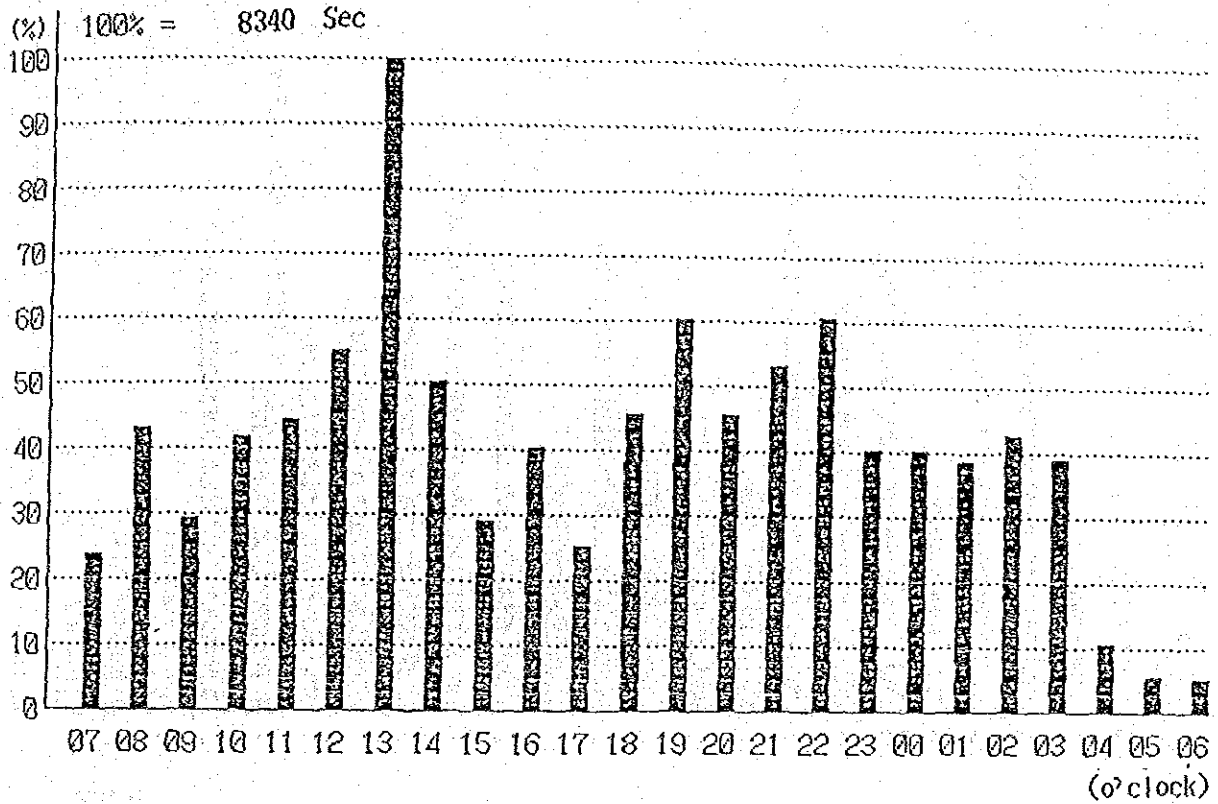
Transmitt- ing frequ- ency(MHZ)	note	receiving frequency (MHZ)	note
171.550	expected frequency(1)	166.550	expected frequency(1)'
.600	" (2)	.600	" (2)'
.850	" (3)	.850	" (3)'
.900	" (4)	.900	" (4)'
.950	" (5)	.950	" (5)'
166.550	expected frequency(1)'	171.550	expected frequency(1)
.600	" (2)'	.600	" (2)
.850	" (3)'	.850	" (3)
.900	" (4)'	.900	" (4)
.950	" (5)'	.950	" (5)

(4) Assigned frequency of the Royal Thai Police Department.
 (Back up Relay Station, including expected frequency)

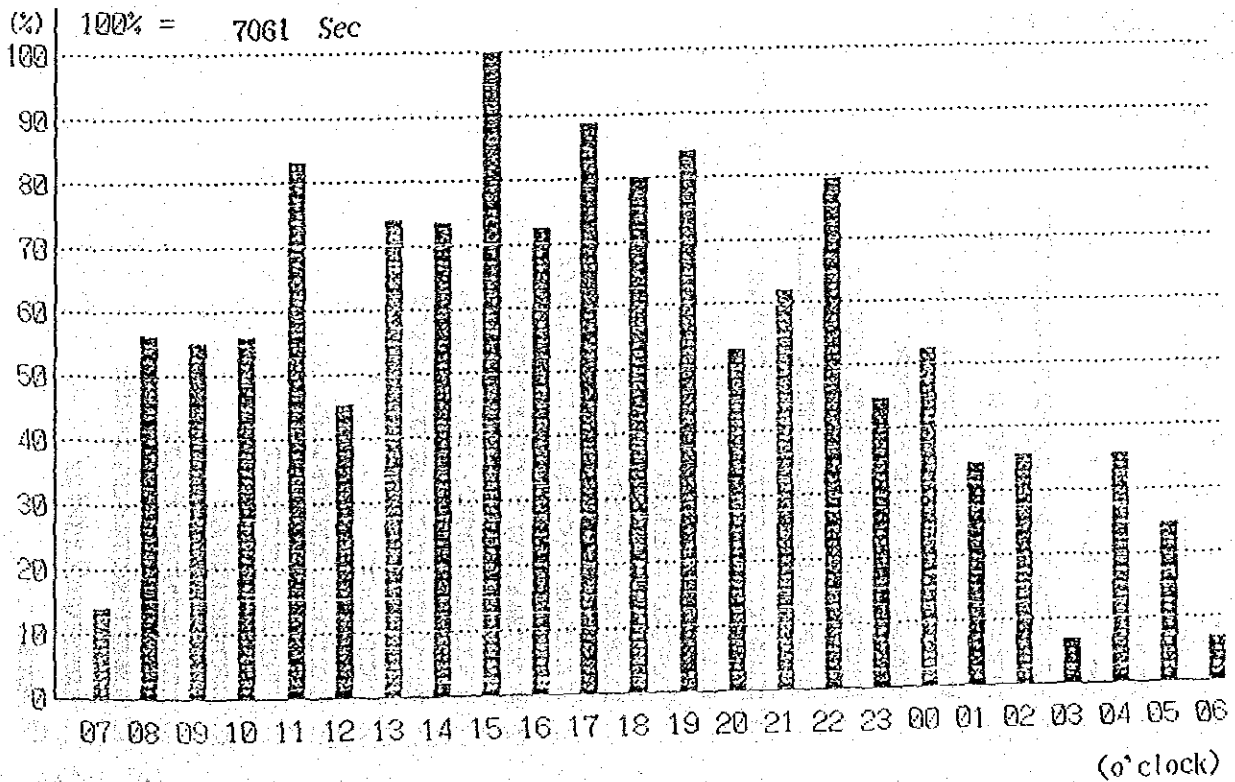
Transmitt- -ing frequ- -ency(MHZ)	note	receiving frequency (MHZ)	note
149.550	90W	149.550	
.700	45W	.700	
152.500	60W	152.500	
.550	60W	.550	
.750	375W	.750	
.850	60W	.850	
.925	90W	.925	
171.700	100W	171.700	
452.300	90W	452.300	
171.550	expected frequency(1)	166.550	expected frequency(1)
.600	" (2)	.600	" (2)
.850	" (3)	.850	" (3)
.900	" (4)	.900	" (4)
.950	" (5)	.950	" (5)
166.550	expected frequency(1)	171.550	expected frequency(1)
.600	" (2)	.600	" (2)
.850	" (3)	.850	" (3)
.900	" (4)	.900	" (4)
.950	" (5)	.950	" (5)

(5) Telephone Talking Time Distribution
Bar-Graph at 191 Centre

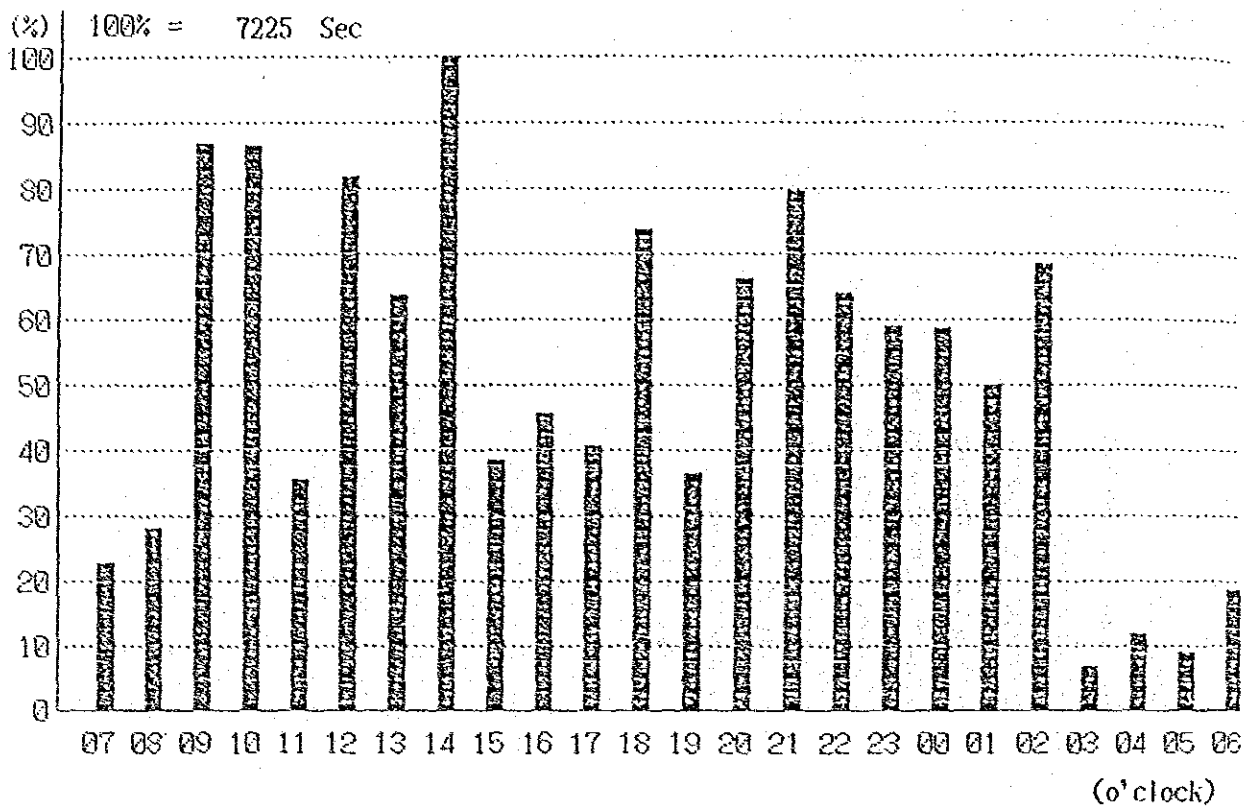
Feb. 2 (Tue)



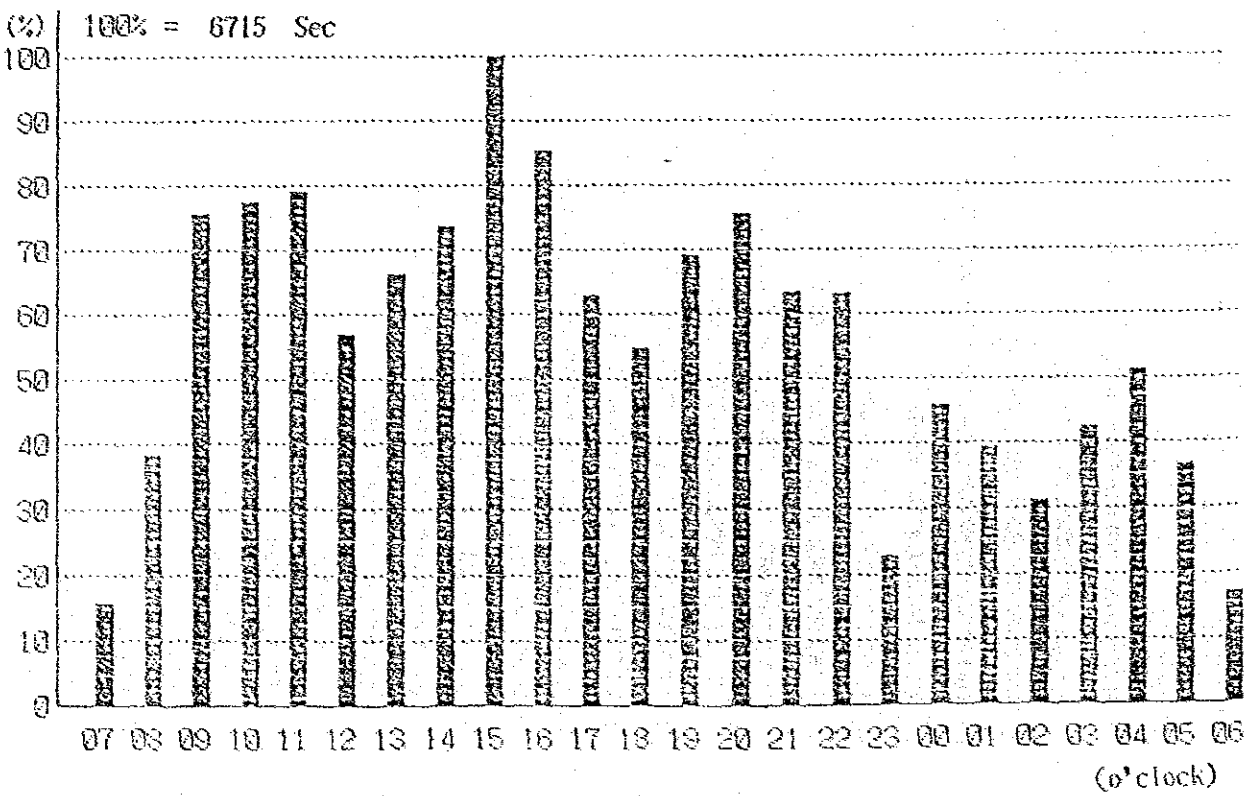
Feb. 3 (Wed)



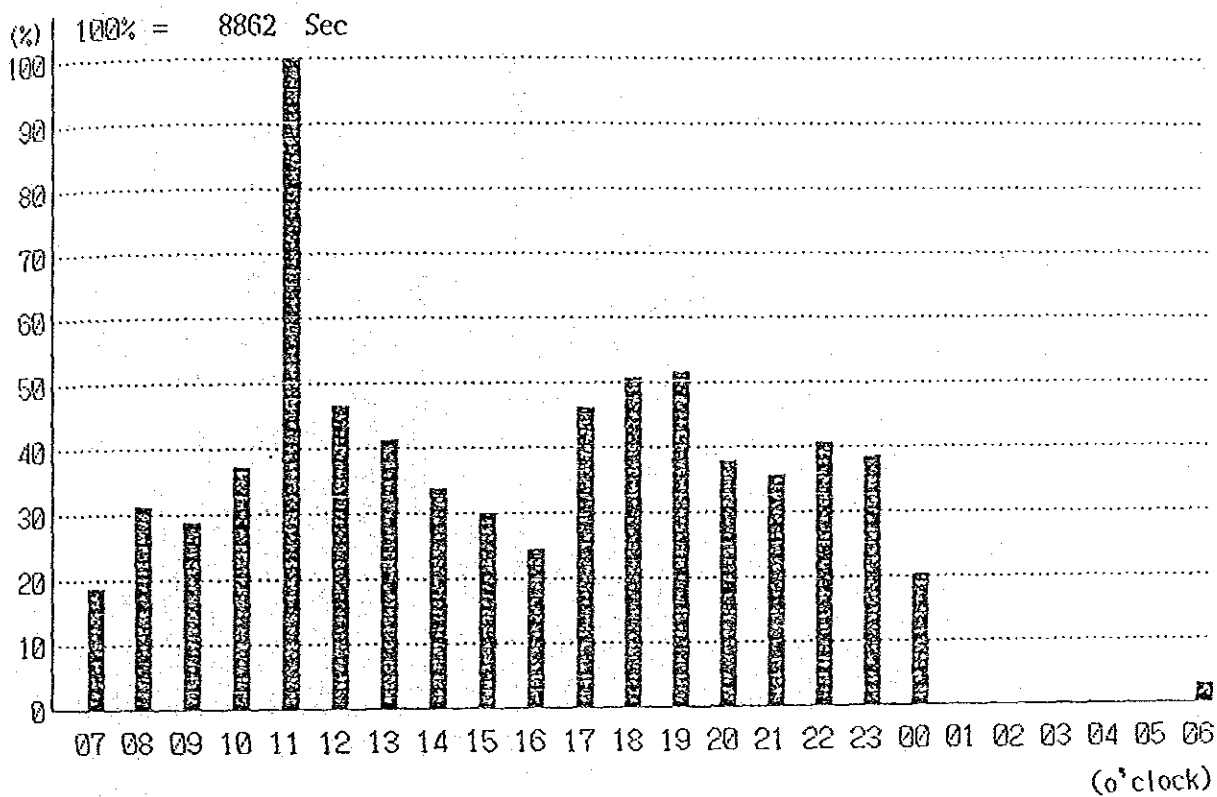
Feb. 4 (Thu)



Feb. 5 (Fri)



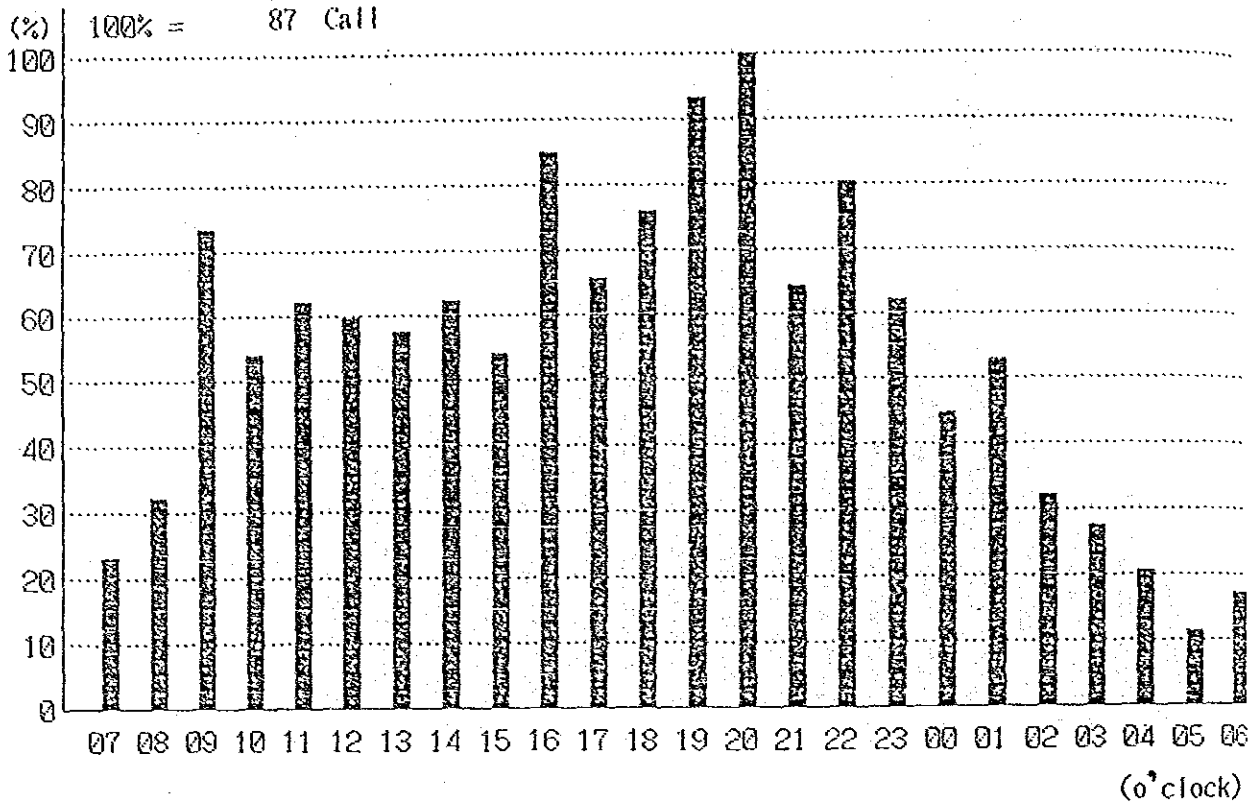
Feb. 6 (Sat)



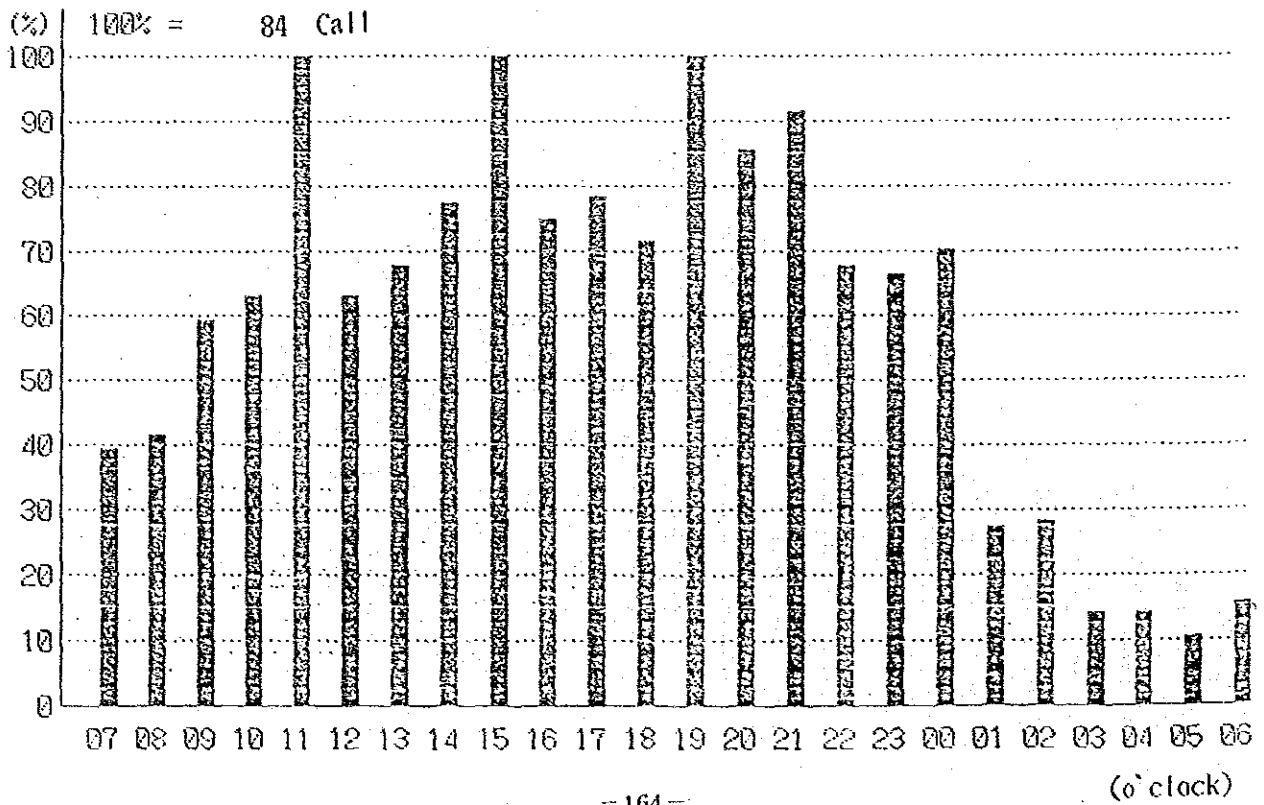
(6) Telephone Call Number Distribution

Bar-Graph at 191 Centre

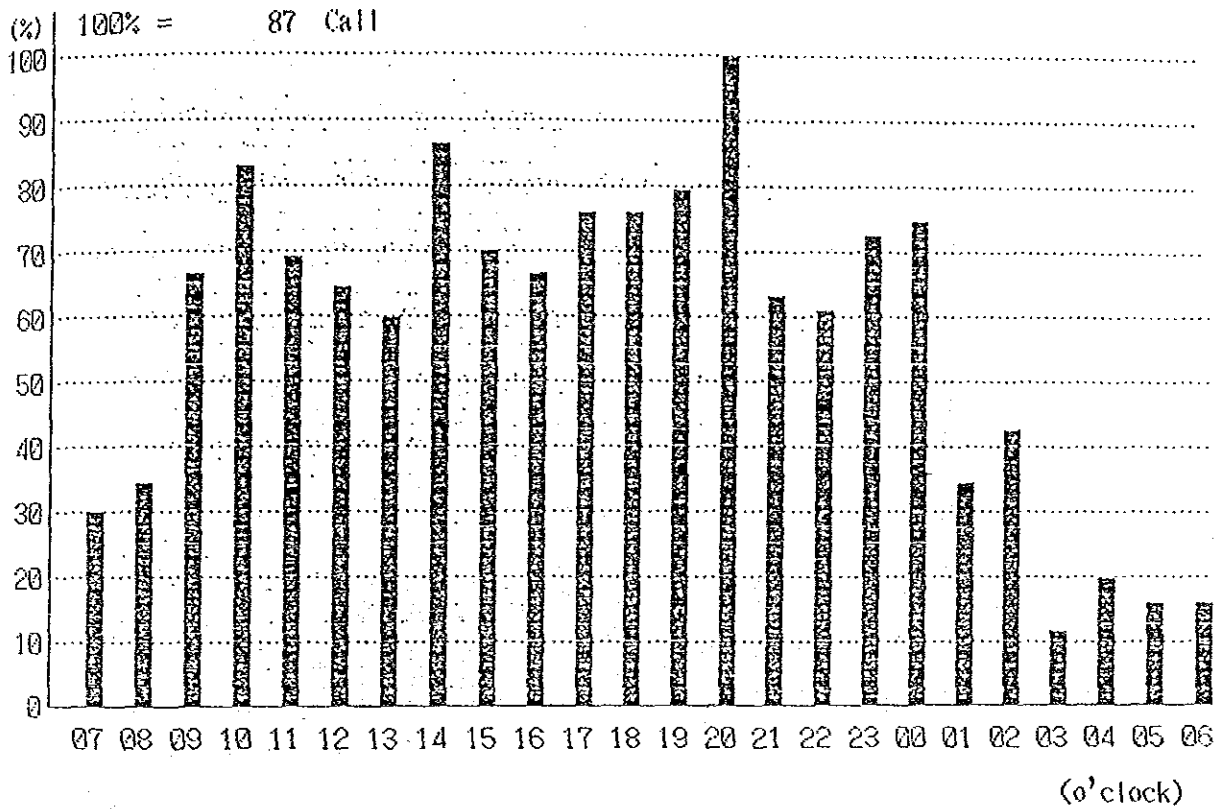
Feb. 2 (Tue)



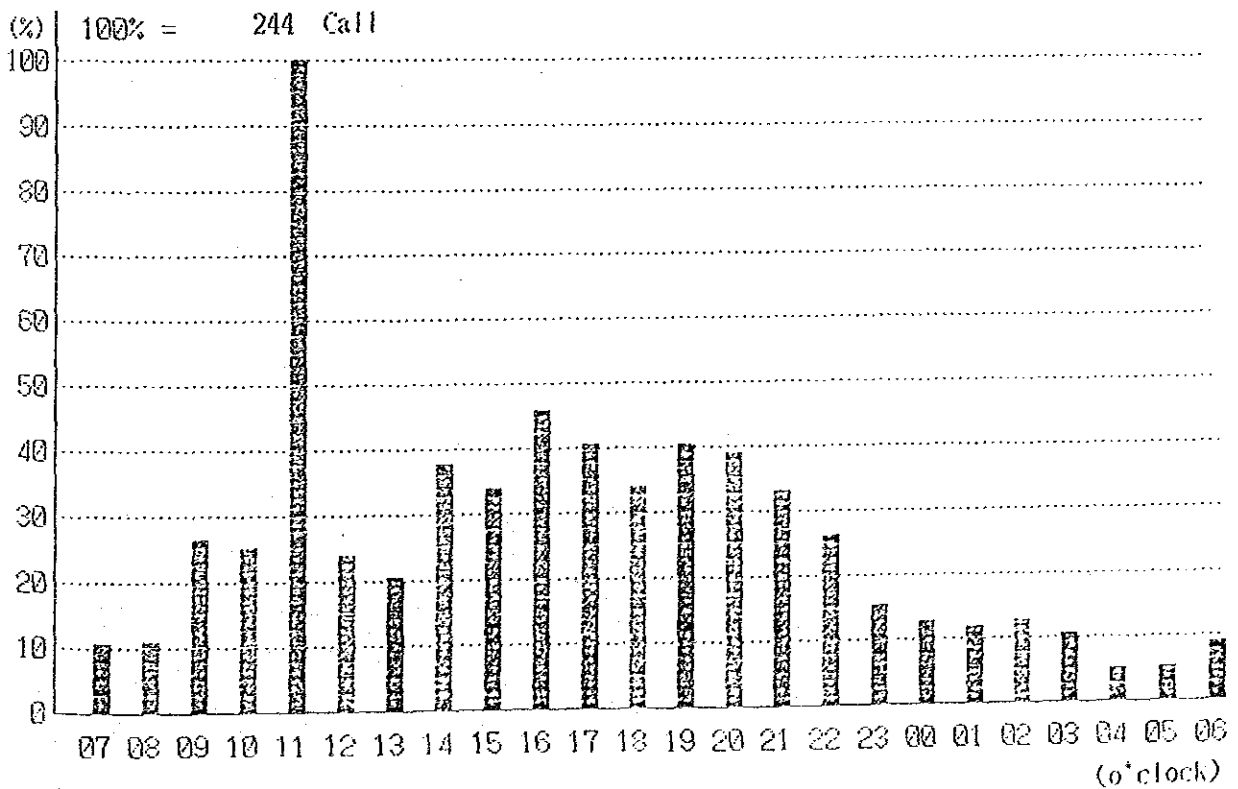
Feb. 3 (Wed)



Feb. 4 (Thu)

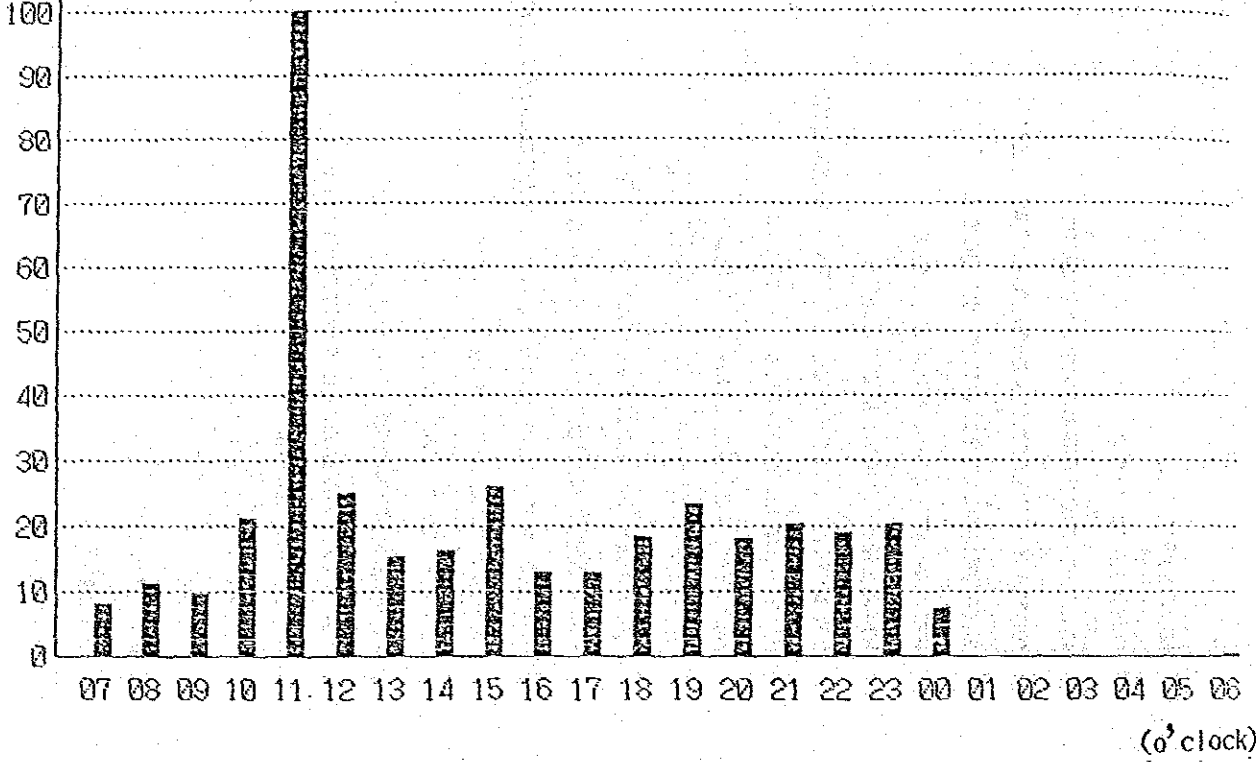


Feb. 5 (Fri)



Feb. 6 (Sat)

(%) 100% = 377 Call



6. Collected Data

Distribution Plan of Proposal Equipment

(M P B)

TABLE SHOWING THE STATUS OF VEHICLES IN METROPOLITAN POLICE BUREAU & 1

DISTRIBUTION PLAN OF PROPOSAL EQUIPMENT

UNIT	STATUS OF VEHICLE		CONSOLE TYPE	VEHICLE LOADING		MOTORCYCLE LOADING	HANDY TYPE	FACSIMILE
	AD. & PATROL	MOTORCYCLE		TYPE RADIO	TYPE RADIO			
NORTHERN BANGKOK METROPOLITAN DIVISION	-	-	1	-	-	-	-	1
(XEED) " RAYA RADIO CENTER"								
GENERAL STAFF SUB-DIVISION	10	4	-	-	-	-	-	-
INVESTIGATION SUB-DIVISION	15	2	1	-	-	-	-	-
SUB-DIVISION 1	-	-	1	-	-	-	-	-
SAMRAT PS. ***	5	21	1	1	-	-	2	1
PRARACHAWANG PS. ***	6	18	1	1	-	-	2	1
CHAKRAT PS. ***	5	15	1	1	-	-	2	1
SUB-DIVISION 2	-	-	1	-	-	-	-	-
NAKLERNG PS. ****	6	18	1	2	-	-	2	1
CHANASONGKRAM PS. ****	6	21	1	2	-	-	2	1
SAYSEN PS. ****	7	21	1	2	-	-	2	1
SUB-DIVISION 3	-	-	1	-	-	-	-	-
DUSIT PS. ***	7	21	1	1	-	-	2	1
PHYATHAI PS. ****	7	32	1	2	-	-	2	1
MAKASAN PS. ***	5	32	1	1	-	-	2	1
HJJEY KWANG PS. ***			1	2	-	-	2	1
DIN DAENG PS. ****			1	2	-	-	2	1

TABLE SHOWING THE STATUS OF VEHICLES IN METROPOLITAN POLICE BUREAU &

2

DISTRIBUTION PLAN OF PROPOSAL EQUIPMENT

UNIT	STATUS OF VEHICLE		CONSOLE TYPE	VEHICLE LOADING MOTORCYCLE		HANDY TYPE RADIO	FACSIMILE
	AD. & PATROL	MOTORCYCLE		TYPE RADIO	TYPE RADIO		
.SUB-DIVISION 4	-	-	1	-	-	-	-
=TOW POON PS.	6	18	1	2	-	2	1
=PEACHA CHUN PS.	6	18	1	2	-	2	1
=BANG SUE PS.	9	18	1	2	-	2	1
=SUTTHISAN PS.	6	21	1	2	-	2	1
=PHAHON YOTHIN PS.	8	25	1	2	-	2	1
.SUB-DIVISION 5	-	-	1	-	-	-	-
=BANG KHEN PS.	8	20	1	2	-	2	1
=DOX KUANG PS.	8	21	1	2	-	2	1
=KANNA YAO PS.	7	21	1	2	-	2	1
.SUB-DIVISION 6	-	-	1	-	-	-	-
=HUA MARK PS.	9	28	1	2	-	2	1
=LAT PHRAO PS.	9	20	1	2	-	2	1
=LAW LAE PS. (BANG CHUN) ***	3	21	1	1	-	2	1
.SUB-DIVISION 7	-	-	1	-	-	-	-
=MIN BURI PS.	4	18	1	1	-	2	1
=KONG CHOK PS.		18	1	1	-	2	1
=CHIBADAP PS. (LUN PUKHABE)***	3	9	1	1	-	2	1
=LAI HIM PS. ***	2	8	1	1	-	2	1
	186	522(708)	35	42	-	52	27

TABLE SHOWING THE STATUS OF VEHICLES IN METROPOLITAN POLICE BUREAU &

DISTRIBUTION PLAN OF PROPOSAL EQUIPMENT

UNIT	STATUS OF VEHICLE		CONSOLE TYPE	VEHICLE LOADING		MOTORCYCLE LOADING		HANDY TYPE RADIO	FACSIMILE
	AD. & PATROL	MOTORCYCLE		TYPE RADIO	TYPE RADIO	TYPE RADIO	TYPE RADIO		
SOUTHERN BANGKOK METROPOLITAN DIVISION	-	-	1	-	-	-	-	-	1
(SBMD) "NARAY RADIO CENTER"									
.GENERAL STAFF SUB-DIVISION	10	6	-	-	-	-	-	-	-
. INVESTIGATION SUB-DIVISION	12	4	1	-	-	-	-	-	-
.SUB-DIVISION 8	-	-	1	-	-	-	-	-	-
=CHORAKKE NOI PS. ***	7	16	1	1	-	-	2	2	1
=PRAMET PS. ***	8	16	1	1	-	-	2	2	1
=LAT KRABANG PS. ***	6	14	1	1	-	-	2	2	1
.SUB-DIVISION 9	-	-	1	-	-	-	-	-	-
=PLAB PLA CHAI 1 PS. ***	7	26	1	1	-	-	2	2	1
=PLAB PLA CHAI 2 PS. ***	6	27	1	1	-	-	2	2	1
=PAJ-MWAN PS. *****	12	32	1	2	-	-	2	2	1
.SUB-DIVISION 10	-	-	1	-	-	-	-	-	-
=LUMBINI PS. *****	10	32	1	2	-	-	2	2	1
=THUNG MAHA MEK PS. *****	7	23	1	2	-	-	2	2	1
=BANG PHONG PHANG PS. ***	6	20	1	1	-	-	2	2	1

TABLE SHOWING THE STATUS OF VEHICLES IN METROPOLITAN POLICE BUREAU &

4

DISTRIBUTION PLAN OF PROPOSAL EQUIPMENT

UNIT	STATUS OF VEHICLE		CONSOLE TYPE	VEHICLE LOADING TYPE RADIO	MOTORCYCLE TYPE RADIO	HANDY TYPE RADIO	FACSIMILE
	AD. & PATROL	MOTORCYCLE					
.SUB-DIVISION 11	-	-	1	-	-	-	-
=BANGKAK PS. *****	9	48	1	2	-	2	1
=YANNAWA PS. *****	7	24	1	2	-	2	1
=WAT PHRAYA KRAI PS. *****	8	19	1	1	-	2	1
.SUB-DIVISION 12	-	-	1	-	-	-	-
=PRAKONG PS. *****	7	32	1	2	-	2	1
=BANGNA PS. *****	8	20	1	2	-	2	1
=KHLONG TAN PS. *****	6	13	1	2	-	2	1
=TONG LO PS. *****	10	48	1	2	-	2	1
* TOTAL	146	419(565)	22	25	-	32	17

DISTRIBUTION PLAN OF PROPOSAL EQUIPMENT

UNIT	STATUS OF VEHICLE		CONSOLE TYPE	VEHICLE LOADING		MOTORCYCLE LOADING		HANDY TYPE RADIO	FACSIMILE
	AD-& PATROL	MOTORCYCLE		TYPE RADIO	TYPE RADIO	TYPE RADIO	RADIO		
THONBURI METROPOLITAN DIVISION	-	-	1	-	-	-	-	-	1
(TMD) "GRUNTHOK RADIO CENTER"									
.GENERAL STAFF SUB-DIVISION	15	8	-	-	-	-	-	-	-
.INVESTIGATION SUB-DIVISION	16	5	1	-	-	-	-	-	-
.SUB-DIVISION 13	-	-	1	-	-	-	-	-	-
=BANG YEE RUA PS. ***	6	12	1	1	-	-	2	2	1
=TALAT PHLU PS. ***	6	12	1	1	-	-	2	2	1
=BUPHARAM PS. ***	6	12	1	1	-	-	2	2	1
.SUB-DIVISION 14	-	-	1	-	-	-	-	-	-
=SAMI RAY PS. ***	7	18	1	1	-	-	2	2	1
=BURGHALO PS. ***	9	12	1	1	-	-	2	2	1
=SONDET CHAO PHRAYA PS. ***	6	18	1	1	-	-	2	2	1
.SUB-DIVISION 15	-	-	1	-	-	-	-	-	-
=BANG KHUN TIAN PS. ***	5	18	1	2	-	-	2	2	1
=RATTURANA PS. ***	6	15	1	2	-	-	2	2	1
=TUNG KRU PS. ***	4	9	1	1	-	-	2	2	1

TABLE SHOWING THE STATUS OF VEHICLES IN METROPOLITAN POLICE BUREAU &

DISTRIBUTION PLAN OF PROPOSAL EQUIPMENT

UNIT	STATUS OF VEHICLE		CONSOLE TYPE	VEHICLE LOADING TYPE RADIO	MOTORCYCLE LOADING TYPE RADIO	HANDY TYPE RADIO	FACSIMIL
	AD. & PATROL	MOTORCYCLE					
=TA KHARM PS.	5	9	1	1	-	2	1
=BANG MOT PS.	6	6	1	1	-	2	1
.SUB-DIVISION 16	-	-	1	-	-	-	-
=PARK KLONG SARN PS. (water)	3	4	1	1	-	2	1
=BANG KHO LAEM PS. (water)	3	4	1	1	-	2	1
=BORWORN MONKOL PS. (water)	3	5	1	1	-	2	1
=BANG PO PS. (water)	3	5	1	1	-	2	1
.SUB-DIVISION 17	-	-	1	-	-	-	-
=BANGKOK NOI PS.	7	12	1	1	-	2	1
=BANGKOK YAI PS.	5	12	1	1	-	2	1
=TA PRA PS.	6	12	1	1	-	2	1
=BANG SOM TONG PS.	5	12	1	1	-	2	1
.SUB-DIVISION 18	-	-	1	-	-	-	-
=BANG PLAT PS.	7	15	1	1	-	2	1
=BANG YEE KHAN PS.	5	16	1	1	-	2	1
=TALING CHAN PS.	4	12	1	1	-	2	1
=WAT RUAH PS.	4	12	1	1	-	2	1

TABLE SHOWING THE STATUS OF VEHICLES IN METROPOLITAN POLICE BUREAU &

DISTRIBUTION PLAN OF PROPOSAL EQUIPMENT

UNIT	STATUS OF VEHICLE		CONSOLE TYPE	VEHICLE LOADING TYPE RADIO	MOTORCYCLE LOADING TYPE RADIO	HANDY TYPE RADIO	FACSIMILE
	AD. & PATROL	MOTORCYCLE					
SUB-DIVISION 19	-	-	1	-	-	-	-
=BHA SRI CHARERN PS. ***	6	12	1	1	-	2	1
=LAX SONG PS. ***	5	12	1	1	-	2	1
=NONG KHAEM PS. ***	6	12	1	1	-	2	1
=SALADAENG PS. ***	3	9	1	1	-	2	1
* TOTAL	172	322 (494)	36	29	-	54	28

DISTRIBUTION PLAN OF PROPOSAL EQUIPMENT

UNIT	STATUS OF VEHICLE		CONSOLE TYPE	VEHICLE LOADING		MOTORCYCLE LOADING		HANDY TYPE		FACSIMILE
	AD. & PATROL	MOTORCYCLE		TYPE RADIO	TYPE RADIO	TYPE RADIO	RADIO	RADIO		
GENERAL STAFF DIVISION (GSD)	35	26 (61)	-	-	-	-	-	-	-	-
* TOTAL	35	26 (61)	-	-	-	-	-	-	-	-
JUVENILE AID SUB-DIVISION (JAD)	13	3 (16)	1	3	-	-	-	-	-	-
* TOTAL	13	3 (16)	1	3	-	-	-	-	-	-
TRAFFIC POLICE DIVISION (TPD)										
.CENTRAL SUB-DIVISION	136	210(346)	1	-	-	-	-	-	-	-
.MECHANICAL SUB-DIVISION	5	10 (15)	1	-	-	-	-	-	-	-
* TOTAL	141	220 (361)	2	-	-	-	-	-	-	-

TABLE SHOWING THE STATUS OF VEHICLES IN METROPOLITAN POLICE BUREAU & 9

DISTRIBUTION PLAN OF PROPOSAL EQUIPMENT

UNIT	STATUS OF VEHICLE		CONSOLE TYPE	VEHICLE LOADING TYPE RADIO	MOTORCYCLE LOADING TYPE RADIO	HANDY TYPE RADIO	FACSIMILE
	AD. & PATROL	MOTORCYCLE					
METROPOLITAN PATROL AND SPECIAL OPERATION DIVISION (MPSOD.)	8	-	-	8	-	8	-
GENERAL STAFF SUB-DIVISION	18	6 (27)	1	-	-	-	-
COMMUNICATION CONTROL SUB-DIVISION	9	2 (11)	-	-	-	8	3
PATROL SUB-DIVISION	142	66 (208)	1	143	40	45	-
RIOT CONTROL AND SUPPRESSION SUB-DIVISION	23	98 (121)	-	-	-	-	-
SECURITY SUB-DIVISION	52	22 (74)	1	-	-	-	-
CANINE SUB-DIVISION	11	15 (26)	1	-	-	4	-
YOUNGED PATROL SUB-DIVISION	9	15 (24)	1	-	-	4	-
TOTAL	267	224 (491)	5	151	40	69	3
POLICE DEPARTMENT	-	-	-	-	-	-	1
TOTAL	-	-	-	-	-	-	1
METROPOLITAN POLICE BUREAU for Commissioner & Deputy Assistant Com.	-	-	-	-	-	13	-
TOTAL	-	-	-	-	-	13	-

TABLE SHOWING THE STATUS OF VEHICLES IN METROPOLITAN POLICE BUREAU &

DISTRIBUTION PLAN OF PROPOSAL EQUIPMENT

UNIT	STATUS OF VEHICLE		CONSOLE TYPE	VEHICLE LOADING		MOTORCYCLE LOADING		HANDY TYPE RADIO	FACSIMILE
	AD. & PATROL	MOTORCYCLE		TYPE RADIO	TYPE RADIO	TYPE RADIO	RADIO		
.POLICE DEPARTMENT	-	-	-	-	-	-	-	-	1
.METROPOLITAN POLICE BUREAU	-	-	-	-	-	-	-	13	-
.GSD	35	26(61)	-	-	-	-	-	-	-
.NBMD	186	522(708)	35	42	-	-	52	27	27
.SBMD	146	419(565)	22	25	-	-	32	17	17
.TYD	172	322(494)	36	29	-	-	54	28	28
.TPD	141	220(361)	2	-	-	-	-	-	-
.JAD	13	3 (16)	1	3	-	-	-	-	-
.KPSOD (191)	267	224(491)	5	151	40	-	69	3	3
* TOTAL *	960	1,736(2696)	101	250	40	-	220	76	76

