IC OF COLOMBIA POLICE
COMMUNICATIONS SURVEY REPORT

★ The National Police

★ The Administrative
Department of Security

Department of State
Agency for International Development
Office of Public Safety
Washington, D. C.
July 1963

REPUBLIC OF COLOMBIA POLICE

COMMUNICATIONS SURVEY REPORT

* The National Police

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FIGURES AND ATTACHMENTS

FOREWORD

In response to a request from USAID/Colombia, with the concurrence of the government of the Republic of Colombia, a communications survey of both the National Police of the Republic of Colombia and the Administrative Department of Security (DAS) was conducted by a representative of the Office of Public Safety (OPS), Agency for International Development, Washington (AID/W) from June 4 to June 18, 1963.

It is noted that a previous General Police Survey conducted during December 1962 by OPS indicated a technical communications survey was required.[1]

During the two weeks spent in Colombia, the OPS representative, a telecommunications engineer, discussed the public safety communications program on several occasions with the Director of USAID/Colombia and his staff. In addition, daily discussions were held with the Chief of Public Safety Division, USAID/Colombia and his staff. The Deputy Director of the National Police, Colonel Camacho, gave freely of his time and assisted with the travel plans and necessary arrangements for a comprehensive field survey. Attention was focused on areas with security problems. The Chief of the National Police telecommunications section, Major Hernando Rojas Currea, furnished needed information and accompanied the OPS/W representative to all locations visited. A National Police airplane and travel facilities required were furnished by the National Police. Meetings were held with the Chief of DAS, Colonel Alfonso Rojas Martinez, and his staff. Major Jorge E. Florez, Chief of General Services Division, DAS, escorted the OPS representative through the many DAS communications facilities.

In addition to the above, meetings took place with the appropriate representatives of the Ministry of Government, Ministry of War and Ministry of Communications. Discussions were held regarding the possible integration of the National Police, DAS and Ministry of Government communications facilities to prevent duplication of effort. Details of these discussions are contained in this report.

[1] Report on the Police of the Republic of Colombia, pp. 5-8 December, 1962.

Many communication installations were visited during the survey and the major sites and offices are as follows:

a. The National Police Headquarters at Bogota.
b. The National Police Telecommunications message center (Central) at Bogota.
c. The National Police Telecommunications supply and repair depot at Bogota.
d. The main National Police Relay station at Mochuelo.
e. The National Police telecommunication facilities at Cali.
f. The National Police Relay station at Companario.
g. The National Police communication facilities at Armenia.
h. The National Police Telecommunication facilities at Medellin.
i. The main DAS telecommunication facility at Bogota.
j. The DAS communication facility at Cali.

PURPOSE AND SCOPE OF SURVEY

A. Purpose

1. Evaluate the existing National Police and DAS telecommunications facilities, systems, organization and identify areas therein where improvement can be made.

2. Suggest and recommend to the National Police, DAS and USAID/Colombia required technical and administrative assistance necessary to improve the efficiency and effectiveness of the present telecommunications facilities of the National Police and DAS.

3. Assist in the identification of immediate and future communications requirements for equipment, personnel, training and logistic support, and thus to form a basis for USAID planning regarding the communications integral of its public safety project.

B. Scope

1. This report concerns the telecommunications systems, organizations and facilities of two separate security agencies.

   a. The National Police is responsible for the maintenance of law and order and, as a civil police organization, is under the administrative control of the Ministry of War.

   b. Administrative Department of Security is responsible for criminal and subversive investigations, and internal security responsibilities relating thereto. This organization is independent of the police and is responsible directly to the President of Colombia.

2. To satisfy the purposes of this report, it is addressed to the following subjects as facets of the organizations studied:

   a. Personnel
   b. Facilities
   c. Equipment
   d. Organization
   e. Training

f. Logistical Support

3. This report also includes recommendations for providing the National Police and DAS with more reliable, more secure and faster communications to enable responsible officials to communicate more readily and effectively with their respective commands.

4. The summary is included at the beginning of this report for quicker reference.

CLARIFICATION OF TERMS AND ABBREVIATIONS

USAID - United States Agency for International Development

AID/W - Agency for International Development-Washington

OPS - Office of Public Safety, AID/W

DAS - Administrative Department of Security

CENTRAL - National Police Radio Message Center

HF - high frequency
Frequencies from 3 - 30 megacycles
Used for long distance communications

VHF - very high frequencies
Frequencies from 30 - 300 megacycles
Used on line of sight communications

UHF - ultra high frequencies
Frequencies from 300 - 3000 megacycles
Used for line of sight communications

AM - amplitude modulation
Modulation of the amplitude of the transmitting wave. The transmitting wave contains a fixed carrier with no intelligence and two sidebands both above and below the carrier signal. Each sideband produced by the process of modulation has the same intelligence.

SSB - single sideband
The energy normally contained in the carrier and two sidebands of AM transmission are concentrated in one sideband. The selected sideband may be either the upper (above carrier signal) or the lower (below carrier signal) and contains the same intelligence capabilities as that obtained in AM transmission.

FM - frequency modulation
Modulation of the frequency of the transmitting wave in accordance with speech or a signal. The transmitting wave contains a variable carrier with the intelligence and no sidebands.

CW - continuous wave-Radio Telegraph
Interrupting the carrier at precise intervals permits the use of Morse code, a telegraphic alphabet or code consisting of dots, dashes, and spaces. The transmitting wave contains a fixed carrier with no intelligence and no sidebands.

PATCH - Electrically connecting two or more circuits together

SIMPLEX - Base station and distant station operating on the same frequency

DUPLEX - Base station and distant station operating on different frequencies allowing simultaneous transmission and reception of messages

I. INTRODUCTION

Colombia is geographically located on the north portion of the continent of South America. The country is bordered on the north by the Republic of Panama and Caribbean Sea; on the east by Venezuela; on the south by Brazil and Peru; and on the west by Ecuador and the Pacific Ocean.

One third of Colombia is mountainous land with poor transportation facilities and inadequate communications. The Colombian southern and southeastern plains, or llanos, are largely uninhabited. The central and western portion of the Republic is mountainous in character, containing the principle wealth of the country and the bulk of the population. The population is concentrated in the high table lands of this region, 3000 to 9000 feet above sea level.

Running from south to north are three ranges of the Andes mountains. The western range, the Cordillera Occidental, or "de Choco," rises to heights of 10,000 to 12,000 feet.

The central range, the Cordillera Central, or "de Quindio," was so named because crossing its central portion is the famous Quindio Pass which connects Cali and Ibague. This range has the highest peaks in Colombia, several of which are lofty volcanoes. Tolima is the highest volcano at 18,400 feet.

The eastern range, the Cordillera Oriental, has peaks up to 16,700 feet. There is an isolated range running parallel with the Caribbean Sea which is disconnected from the Andes.

The Republic of Colombia covers an approximate area of 439,828 square miles of which a large portion has not been developed or cultivated. The country has 1810 miles of sea coast of which 1000 miles are adjacent to the Caribbean Sea and 810 miles border the Pacific Ocean.

The total population in 1962 was approximately 14,131,660, of which 1,256,640 are in Bogota, the Capitol. There are 12 additional major cities in the country with populations in excess of 100,000. The largest are Barranquilla with a population of 452,140; Bucaramanga population 208,640; Cali population 639,000; Medillin population 651,240.

Colombia has 8,266 miles of national roads and 6,984 miles of departmental roads which can best be described as passable in the dry season. The roads vary from deluxe paved highways to small unpaved jungle roads and are so located as to afford access by vehicle to all the major cities. The Simon Bolivar Pan American highway extends from Panama through Colombia to Ecuador. In conjunction with the road system, Colombia has a national railroad covering 2,000 miles which permits travel to the main cities of the republic.

Colombia has three seaport cities on the Caribbean; Barranquilla, Cartagena and Santa Monica with another, Buenceventura, on the Pacific coast line. These four cities furnish the country with seaports through which imports and exports flow to help sustain its economy.

Communication facilities of the Civil Government and Commercial Agencies are limited and in most cases unreliable. Communications with many of the rural areas are virtually nonexistant.

The three major problems of internal security in the Republic of Colombia are:

1. Urban crime.
2. Rural banditry.
3. Civil disturbances.

The National Police with personnel totaling approximately 30,000 has the primary responsibility for maintenance of law and order. It functions in all cities and towns of any size throughout the Republic.

The Administrative Department of Security (DAS), with a total personnel of approximately 3,500, is an organization charged with the investigation of both common and subversive crimes and with the added responsibility for foreigner control.

The Army with a total strength of approximately 49,000 has primary responsibility for bandit control. It also maintains law and order in a number of smaller communities not provided with police service.

II. SUMMARY

By necessity this report includes noted deficiencies of the National Police and DAS telecommunication systems and organizations. However, it should be recognized that while the National Police and DAS telecommunication systems and organizations are far from optimum in their capabilities, they do reflect considerable effort on the part of the officials concerned to provide essential communications in support of their overall mission. The telecommunications officers of these agencies are highly capable and recognize many of the problem areas discussed in this report.

1. Although the National Police and DAS operate as two independant organizations under separate authority, their communication requirements are similar. The National Police country-wide telecommunication system to a large degree parallels the DAS communications facilities. The National Police provides a voice channel over their single sideband network, which was recently purchased with GOC funds at a cost of $68,000, and a voice or teletype channel over its National UHF relay network (Figure 1 and 2). DAS provides radio telegraph operation on a country-wide communications net.

2. Visits to the two telecommunications facilities revealed deficiencies in equipment, personnel, operation, etc. These deficiencies were brought to the attention of responsible National Police and DAS officials (see Attachments 1 and 2). It was observed that one shortcoming common to both organizations was the lack of 24-hour-a-day operations of communications facilities needed for internal security operations.

3. Upon identifying these problems the OPS representative suggested the integration of both the National Police and DAS communications systems by emphasizing the following:

   a. The independent expansion or modernization of existing National Police and DAS telecommunications facilities with USAID support would place a requirement on both agencies for additional funds, personnel, buildings and training. As a result of the GOC austerity

program now in effect, both the National Police and DAS would be unable to meet these requirements.

b. Undirected and uncoordinated expansion or modernization of the presently independent National Police and DAS communications systems under existing lack of administrative controls and personnel will not appreciably improve the overall ability to communicate but will tend to increase interference and inefficiency in general.

c. The urgent need for reliable 24-hour-a-day, point-to-point radio communications can best be met through coordination and consolidation of the National Police and DAS communications facilities and thus avoid duplication in the practical utilization of the network, conserve frequencies, utilize personnel, and economically and efficiently allocate local and external resources.

4. Responding to OPS suggestions, both the National Police and DAS officials agreed on the 13th of June, 1963, to consolidate their communications systems wherever possible. The National Police and DAS officials were aware of the advantages of integration and, with the technical assistance of the OPS representative, possible methods of implementation were devised. Official orders were issued by the Director General of the National Police and the Chief of DAS pertaining to the coordination of communications facilities of these agencies and are included in this report as Attachments 1 and 2.

5. In projecting further communications requirements for the National Police and DAS, all existing and proposed communications systems of GOC were examined by OPS to prevent possible duplication or parallel systems. In this regard, these steps were taken:

a. The Ministry of Government was found to have a planned SSB communications network which, to a great extent, would parallel the existing National Police SSB facilities (Figure 3 and 4). Meetings were held to ascertain the feasibility of integrating and planned SSB network of the Ministry of Government with that of the National Police and DAS.

b. The Ministry of Government SSB equipment was obtained through an A.I.D. Civic Action project with the Ministry of War under a Project-Agreement, listing as one of the goals the provision of

communications for the police. A total of $264,000 was allocated for the SSB equipment of which $132,000 was provided through USAID support and the balance contributed by the GOC.

c. The OPS representative, with the concurrence of USAID/Colombia, proposed increasing the message handling capabilities of the existing SSB communications networks by including multiplex and teletype equipment in future public safety project assistance plans. The proposed multiplex and teletype equipment at a cost of approximately $40,000, would allow simultaneous voice and teletype transmissions thereby providing a more effective utilization of existing equipment and facilities.

6. An official letter (Attachment 3) was sent June 14 to the Ministry of Government from the National Police and DAS suggesting the integration of their SSB communications facilities.

7. On the 26th of June, a conference was held at the Ministry of Government to examine the proposal to combine the facilities of the interested agencies. The minutes of this conference are included in this report as Attachment 4. It was decided to form a 5-man commission composed of representatives from the Ministry of Government, Ministry of War, Ministry of Communications, National Police and DAS to review the administrative and technical problems relating to the establishment of an integrated communications system and to inform the agencies involved of their findings not later than July 14, at which time a new meeting would be held.

8. Future Police and DAS communication requirements would necessitate purchasing higher-powered, as well as additional, SSB equipment. This will not be necessary if the proposed consolidation plan is implemented effectively. The Police and DAS have an immediate requirement for a central transmitter and receiver station in Bogota. The cost required to construct adequate buildings and obtain the needed property for the Police and DAS would amount to about two million pesos ($200,000). Because of the present GOC austerity program it is doubtful if the funds could be obtained at this time. However, the Ministry of Government SSB network has created local funds for the construction of a central transmitter and receiver site in Bogota which will meet the above requirement, again, if the proposed consolidation is implemented.

9. Aside from monetary considerations the integration of communications facilities will provide the following:

a. Reliable 24-hour-a-day communications.

b. More efficient utilization of available personnel.

c. Conserve frequencies.

d. Reduces training requirements.

e. Centralizes communication facilities and reduces building requirements.

f. More efficiently allocates local and external resources.

10. Present planning calls for the Ministry of Government to have operational control of the SSB communication system. This should not pose any serious problems since the method of operation is being planned by a committee consisting of Police and DAS representatives and it is believed that suitable priority will be given DAS and the National Police for reasons of internal security.

III. CONCLUSIONS AND RECOMMENDATIONS

NATIONAL POLICE

A. Conclusions

1. The National Police and the GOC Army jointly operate a national UHF relay network composed of 12 high altitude relay stations. The National Police are solely responsible for the operation, maintenance and security of 7 high altitude relay stations and furnish technicians to assist in maintaining the 5 Army-controlled relay stations. The expense, personnel and logistical support required to operate and maintain the 7 National Police UHF relay stations presents severe operational limitations and is economically prohibitive. The following are comments affecting the operation of the UHF relay network:

a. The relay stations operate on a time scheduled basis approximately 8 hours a day due primarily to the expense and transportation problems encountered in supplying fuel for the generators.

b. The failure of one remote relay station can disrupt communications to an entire area serviced by the relay link.

c. The relay stations are vulnerable to sabotage, being completely isolated, and require the continued presence of security personnel.

d. The complexity of the equipment requires a high level of technical skill and the remoteness of the relay stations makes it necessary to rotate the technicians every six months.

e. While teletype facilities are provided, they can not be used simultaneously with the voice circuit.

2. Higher reliability and greater capacity can be obtained over comparable areas of coverage with UHF or VHF communications than that possible with HF communications. However, where long distance communication is required and one or two channels needed, the UHF and VHF communications systems become impractical.

3. The National Police have recently purchased and installed 30 Marconi SSB transceivers in a HF simplex network to augment the existing national UHF

relay network. This SSB HF network can provide reliable point-to-point communications over long distances if properly utilized. The National Police are operating a SSB cimplex voice channel which is justifiable for staff and administrative traffic. However, in certain internal security operations, it is imperative that communications be secure from interception...therefore a means of sending coded messages is needed.

4. The present arrangement of SSB transmitters and receivers at one site does not allow full utilization of the equipment's capabilities. Separate transmitter and reciever facilities are needed as well as sufficient area for the installation of necessary antannae before a proper communications systems can be evolved.

5. The Urban National Police communications network at Bogota appears to be adequate at present. However, this system, with its present mode of operation, is highly vulnerable to technical failures and possible sabotage. The entire urban communications network is dependent upon the continued operation of a microwave relay installation located on a mountain (Alto del Cable) northeast of Bogota.

6. The operating hours of the radio patrol cars are one of the major factors in determining the efficiency of a mobile patrol. There are presently eighty radio patrol cars in use in Bogota with twenty-six in service at any given hour. These radio dispatched vehicles are improperly controlled, often being in areas other than that reported. This problem can be overcome by:

a. Installing in a position convenient to the dispatcher a map board showing areas of individual patrolling responsibility and equipped with a system of lights or magnets for the instant recording of the in-service or out of service status of each radio car.

b. The establishment of a system of recording on a sheet of paper a record of the location, purpose, and time of each assignment and requiring radio cars to account for out-of-service activity.

c. The use of tape recorders as line monitoring equipment to record all radio operations for later review and check is also a possible solution to this problem.

7. At present, the urban National Police communications network includes a considerable quantity of mobile and portable transceivers which are being

utilized for patrol and other police activities in Bogota. There are on hand 180 mobile (high band) FM transceivers purchased in 1956 from a Swiss manufacturer, Autophone. The maintenance accomplishments of the police are remarkable, inasmuch as over 80% of this equipment is operational, and, of the remainder, 18% are repairable if spare parts were available. These radios are of a design several years old and consequently draw excessive current, are less efficient and frequently run down the patrol batteries. Dry cell batteries for the portable transceivers are of a special size and nature which cannot be readily procured from local commercial sources thus, a serious economic problem exists in assuring the continued operation of this equipment by the police.

8. The radio equipment and facilities for local coverage in major cities other than Bogota and Cali are in poor condition and of minimum usefulness. Most of the equipment was purchased for the police with municipal funds resulting in similar equipment but of a number of different makes. This places a greater supply, maintenance and training problem on the telecommunications service. As a result, in the city of Medellin, with a population of 500,000, the communications facilities are completely inadequate. Also, police telephone facilities are nonexistant. All incoming calls are handled by three telephone instruments with no switchboard to route emergency calls.

9. Large cities in Colombia, such as Barranquilla, Bucaramanga, Cartagena, Cucuta, Santa Marta, Medellin and others, do not have the required communications facilities to support police activities. The urban police radio systems are the property of the departments rather than of the National Government. The selection and operation of this equipment was not coordinated with the National Police telecommunications staff.

10. The National Police are presently engaged in anti-bandit and other internal security operations in the Tolima area. During many of these operations the police are without radio communications because of the distance from the "Department" police headquarters, and the lack of suitable communications equipment.

11. The National Police Telecommunication staff should be commended on their supply facilities and organization. Spare parts and equipment are properly stored and stocked at the telecommunication supply and maintenance area. Using

a Kardex system the police have established an excellent control over the expenditure of supplies with an identification and location file for each item of stock.

B. Recommendations

Public Safety project planning should be directed to insure the more efficient operation of the existing National Police communication system and to improve their maintenance capabilities and facilities. Since this planning and subsequent implementation efforts represent the initial phase of U.S. support in the improvement of National Police communications capabilities, the GOC must fully assess their requirements and establish suitable priorities for improvement measures in concert with U.S. and Colombian resources.

1. General

a. It is recommended that several telecommunications officers be assigned to the major cities where continuous technical and administrative supervision over the urban and National Police communications networks are needed. These telecommunications officers should report to the telecommunications staff in Bogota for technical support and direction.

b. It is recommended that an automatic teletype monitoring facility be installed in the Radio Central to release excess teletypes for other locations. The proposed automatic monitoring can be accomplished by a series of lights and switches manufactured locally.

c. It is necessary to provide the present National Police SSB country wide communications network with a means of sending coded messages essential to police activities. While radio telegraph (CW) can provide this service, the police do not have any qualified CW operators. It is therefore recommended that a radio teletype facility be provided which will also provide a needed permanent written record of command.

d. The radio equipment furnished by the departments should be redistributed in order to have similar manufacturers' equipment in certain cities. A suitable standardization plan should be made for the gradual and systematic replacement of old and obsolete equipment of one manufacturer.

e. A requirement exists for the improvement of the National Police SSB communications facilities. Separate transmitter and receiver sets are needed in Bogota. Presently the Police are using one location which does not allow simultaneous transmission and reception to distant stations necessary for internal security operations.

2. Technical Services

a. In reviewing the present communications system and the proposed USAID Public Safety communications project, it is recognized that there is a most urgent need for a Public Safety Communications Advisor.

b. This technician would be responsible for the necessary USAID administrative procedures to support the telecommunication project and the overall coordination and planning with the National Police Telecommunications staff. In addition, this technician would be concerned with actual engineering and installation phases of this project as well as responsible for coordinating and advising both the National Police and DAS on the pending integration of their communications facilities.

c. It is recommended that this technician should arrive in Colombia by October 1, 1963 in order to be able to assist in the basic planning of the proposed USAID project and carry forward recommendations set forth herein.

3. Commodity Support

a. Expansion and modernization of the SSB network. Factors and information bearing on the development of a commodity plan to implement improvement steps for accomplishing basic objectives are:

(1) The integration of the National Police and DAS communications facilities makes it necessary to increase the traffic capacity of the present police SSB network as well as provide a means of sending coded messages.

(2) A requirement exists for Multiplex equipment to permit simultaneous voice and teletype transmission over the existing SSB network. The Multiplex equipment costs approximately $750 per terminal and it is anticipated that 12 units will be needed

to furnish voice and teletype facilities to the eight major locations outlined in Figures 4 and 5. This equipment is fully compatible with the existing police SSB equipment and the SSB equipment of the Ministry of Government. The total cost of the Multiplex terminals will be approximately nine thousand dollars.

(3) Approximately 20 teletype machines are available for this project. The police have 10 teletypes in storage and the others can be obtained as outlined in paragraph 1. b of recommendations. It is recommended that 10 automatic send-receive teletypes with tape reperforators be provided. These teletypes are similar to Teletype Corporation of America model 28 ASR and cost approximately $3,000 per machine, a total cost of thirty thousand dollars. The proposed teletypes will provide a more efficient operation by supplying speed and accuracy with less experienced operators. Messages can first be put on tape by punching perforations into the tape and then automatically sent to the addressee by passing the tape through an automatic transmitter. Messages coming from the National Police or DAS headquarters can be transferred automatically to their addressee, by using a receiving reperforator to prepare perforated tapes of incoming messages; thereby eliminating the possibility of operator error.

b. The police have done a remarkable job in maintaining available radio equipment, as outlined in paragraph A. 7 Conclusions. However, optimum performance can only be obtained if the proper test equipment and tools are available. The remoteness of the Relay sites and the distance between repair facilities makes it necessary to provide tools and test equipment for each area. It is recommended that tools and test equipment be procured to improve the maintenance capabilities and facilities.

c. Communications equipment for bandit control is required and, because of the particular type of terrain in which anti-bandit operations are conducted, SSB equipment is recommended. This equipment should be portable, transistorized for low current drain,

weigh approximately 10 lbs. and be operable from an internal nickel cadmium battery as well as an external 12 volt DC and 110 volt AC source. Specifications for this equipment will be prepared and forwarded to the National Police and USAID/C for consideration.

d. The National Police have 70 VHF AM (20 - 30 mc) portable transceivers of which 20 are in operation in the bandit area. There is a need for additional equipment to net with these stations. This equipment would be used on patrols and should be a hand-carried unit, fully transistorized and operate from series "D" cells (flashlight batteries) which are inexpensive and readily obtained in Colombia. Specifications for this equipment will be prepared by OPS and forwarded to the National Police and USAID/C for consideration.

e. It is recognized that greater communications coverage is required for rural areas. National Police officials have indicated a need for communications to police posts on the Amazon river. While there is a Civic Action project to provide the Ministry of Government with communications to the Llanos and Amazonas areas, many of the locations selected to not meet the police needs. The SSB equipment proposed in paragraph c. above can also be used to fulfill the police communications requirement for the Amazonas area.

f. It is recommended that before a contract is awarded by the authorized procurement agent, the bids should be referred to the National Police and USAID/C for review and concurrence.

4. Emergency Funds

a. Funds should be made available for emergency procurement of miscellaneous items which cannot be anticipated or projected. These items will be required for the maintenance and repair of existing police communications equipment as well as the equipment proposed for procurement under the USAID Public Safety project. It is recommended that an "Open-End" type of PIO/C be issued providing up to $5,000 for the procurement of such miscellaneous items over a period of one year. USAID should be designated the authorized agent. An additional $5,000 should be provided in local currency

to allow the purchase of locally-available material and services which may be required to support the implementation of the Public Safety communication project.

5. Participant Training

   a. It has been recommended that additional telecommunication staff officers be utilized. USAID should sponsor three participants for Telecommunication Officer Management Course in the U.S. for a period of 10 to 12 months. This course should be similar to the one conducted at Pasadena City College, California.[1]

   b. USAID should send one telecommunication officer to the U.S. for Junior Radio Engineering training for a period of 18 months. This would help provide needed technical support of the police telecommunications system.

   c. It is recommended that the chief of the police telecommunications service be sent on an observation tour for three months of U.S. Police, Border Patrol and Military communication facilities.

   d. Some consideration should be given to providing participant training for Municipal Police operations officers who will be responsible for coordinating the utilization of the radio patrol car systems.

6. Local Training of Technicians

   a. Technician training should be established locally so that the technicians can more effectively maintain their existing equipment as well as be able to maintain the new equipment proposed by USAID Public Safety project.

   b. While some training will be conducted by the proposed USAID Public Safety Communication Advisor when he arrives, the police should initiate a program for basic and advanced training for present and new technicians. This can be done in cooperation with local manufacturers or on a contractual arrangement with technical institutes.

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[1] AIDTO circular X 1165, June 21, 1963, Police Telecommunications Management program.

7. Future Communications Requirements

A detailed study of future communications requirements has not been accomplished to date; however, the following are some of the possibilities which should be considered by USAID and the National Police:

a. Urban Communication Requirements

(1) A requirement exists for an emergency police terminal VHF station to be installed in a multi-story building in Bogota as a back-up emergency facility. The present urban police communications network servicing Bogota is vulnerable in that it is dependant upon a microwave relay station located on a mountain northwest of Bogota. The failure of this relay station would completely disrupt communications to the radio patrol cars and other fixed and portable stations using the relay.

(2) The present VHF FM mobile equipment in Bogota should be phased out in the next three to five years. When this occurs, it will be desirable for the technicians to be trained by manufacturers of the equipment being supplied. The individuals sent for such training should have basic technical qualifications and English speaking ability. The equipment phased out should be transferred to other cities to establish a radio patrol car training program.

(3) The urban police departments in many of the large cities are in need of mobile and fixed communications equipment. There is also a requirement for switchboards in many of these cities to handle incoming calls and route them to the police officials concerned. Because of the quantity required, it is necessary for the National Police to establish a priority and program for a gradual installation of equipment needed over a period of time. This installation rate would of course be dependant upon the extent of USAID Public Safety support, and resources of the Colombian Government.

b. National Police Field Operational Requirement

(1) For better security, it is recognized that reliable communications are required between the National Police Department

Headquarters and National Police District Headquarters in order to provide a greater span of police control and enable police officials to communicate more readily with their headquarters.

(2) A National Police administrative and operational communications network is required at the Department Headquarters to District level to fulfill the police mission of polising the highways and maintaining law and order in villages far from the "Department" capitols.

(3) A communications system of this magnitude should be a joint U. S. /Colombian effort and coordinated with other interested GOC agencies. This system should be an extension of the basic National Police country-wide telecommunication system and be available for civil security communications and possibly normal civil government administrative affairs.

(4) The following are the National Police Departments and Districts requiring relatively inexpensive Radio-phone equipment:

Department of Antioquia. Headquarters in Medellin. Districts: Rionegro, Cisneros, Santa Rosa, Yarumal, Antioquia, Turbo, Fredonia, Bolivar, Tamesis, Causasia, and Puerto Berrio.

Department of Atlantico. Headquarters in Barranquilla, District: Sabanalarga.

Department of Bolivar. Headquarters in Cartagena. District: Sincelejo, El Carmen, Mompos, and Magangue.

Department of Boyaca. Headquarters in Tunja. Districts: Sogamoso, Duitama, Chiquinquira, Guateque and Soata.

Department of Caldas. Headquarters in Manizales. Districts: Armenia, Anserma, Salamina, Dorada, and Pereira.

Department of Cauca. Headquarters in Popayan. Districts: Bordo and Santander.

Department of Cordoba. Headquarters in Monteria. Districts: Lorica, Planeta Rica and Sahagun.

Department of Choco. Headquarters in Quibdo. Districts: Atrato, Itsmina, Bahia Solano and Acandi.

Department of Huila. Headquarters in Neiva. Districts: Garzon, Pitalitio and Florencia.

Department of Magdalena. Headquarters in Santa Marta. Districts: Cienga, Fundacion, Valledupar, Plato, Banco, Aguachica, and Riohacha.

Department of Narino. Headquarters in Pasto. Districts: Ipiales, La Union, Tumaco, and Mocoa.

Department of Santander. Headquarters in Cucuta. Districts: Ocana, Pamplona, and Gramalote.

Department of Santander del Sur. Headquarters in Bucaramanga. Districts: San Gil, Malaga, Burrancabermeja, and Barbosa.

Department of Tolima. Headquarters in Ibague. Districts: Rovira, Espinal, Dolores, Chaparral, Armero, and Libano.

(5) The initial phase of the development plan should be directed toward improving Department Headquarters to District communications. Thought should be given to the following National Police Stations and major Police Posts as an extension to the Department-District communications network:

Antioquia Police Department

Between RIONEGRO District and San Antonio, Carmen de Viboral, Marinilla and Santuario.

Between CISNEROS District and Holombo, San Roque, Santo Domingo, and Yali.

Between SANTA ROSA District and Don Matias, Entrerrios, and Carolina.

Between YARUMAL District and Campamento, Angosturas, and San Andres.

Between TURBO District and Riogrande, Currulao, Nicocli, and Chigorodo.

Between FREDONIA District and Venecia, Santa Barbara, Bolombolo, and Amaga.

Between BOLIVAR District and La Manzana, Salgar, Betania, and Tarzo.

Between TAMESIS District and Valparaiso, Caramanta, and Jerico.

Between CAUCASIA District and Caceres, Guarumo, and Puerto Ospina.

Between PUERTO BERRIO District and Nare, Virginias, Caracoli, and Macedo.

Atlantico Police Department

Between SABANALARGA District and La Pena, Cascajal, Usiacuri, Candelaria, Santo Tomas, and Baranoa.

Bolivar Police Department

Between SINCELEJO District and Corosal, Tolu, and Since.

Between EL CARMEN District and Zambrano, San Jancinto, and Ovejas.

Between MOMPOS District and Margarita, Fernando, and Santa Rosa.

Between MAGANGUE District and Las Llanadas, San Pedro, and Sucre.

Boyaca Police Department

Between SOGAMOSO District and Mongui, Topaga, and Giravitoba.

Between DUITAMA District and Floresta, Tibasosa, and Paipa.

Between CHIQUINQUIRA District and Caldas, Saboya, and Pauna.

Between GUATEQUE District and Sutatenza, Tausa, and Garagoa.

Between SOATA District and Boavita, Susacon, La Uvita, and San Mateo.

Caldas Police Department

Between ARMENIA District and Calarca, Circasia, Montenegro, and Quimbaya.

Between ANSERMA District and Guatica, Risaralda, Velen de Ungria, and Mistrato.

Between SALAMINA District and Pacora, Aguadas, and Marmato.

Between DORADA District and Samana, La Victoria, and Pensilvania.

Between PEREIRA District and Santa Rosa de Cabal, Ulloa, Filandia, and Marsella.

Cauca Police Department

Between BORDO District and Patia, Rosas, Bolivar, and Buachicona.

Between SANTANDER District and Caloto, Toribio, La Bolsa, and Corinto.

Cordoba Police Department

Between LORICA District and San Bernardo, Purisima, and Momil.

Between PLANETA RICA District and Carolina, Pueblo Viejo, and Monte Libano.

Between SAHAGUN District and La Arena, Rincon, Rancheria, Cienaga de Oro, and Chinu.

Choco Police Department

Between ATRATO District and Tamando, Tutunendo, and Samurindo.

Between ITSMINA District and Condoto, Andegoya, and Opogodo.

Between BAHIA SOLANO District and Nabuga, Puerto Mutis, Valle, and Puerto Utria.

and Tipana.

Huila Police Department

Between GARZON District and El Agrado, Guadalupe, Altamira, and Rio Loro.

Between PITALITO District and Timana, San Agustin, and Elias.

Between FLORENCIA District and Puerto Rico, Tres Esquinas, Montanita, and San Vicente del Caguan.

Magdalena Police Department

Between CIENAGA District and Pueble Viejo, La Rinconada, and Islas del Rosario.

Between FUNDACION District and Acataca, Tucurica, and Guacamayal.

Between VALLEDUPAR District and San Juan del Cesar, Robles, La Jagua, and Caracoli.

Between PLATO District and Sarate, Purgatorio, Apure, and Real Obispo.

Between EL BANCO District and Chimichagua, Tamalameque, Sempegua, and Tamalemequito.

Between AGUACHICA District and Gamarra, Totumal, Los Angeles, and El Contento.

Narino Police Department

Between IPIALES District and Potosi, Guaspudo, Cumbal, and Pupiales.

Between LA UNION District and Arboleda, Colon, Alban, and San Lorenzo.

Between TUMACO District and Diviso, Recodo, and Candelilla.

Between MOCOA District and Colon, Puerto Asis, and Villa Garzon.

Santander Police Department

Between SAN GIL District and Pinchote, Curiti, and Barichara.

Between MALAGA District and Enciso, San Jose de Miranda, San Andres, and Capitanejo.

Between BARRANCABERMEJA District and San Vicente, Albania, El Centro, and Quebrada Roja.

Between BARBOSA District and Puente Nacional, Jesus Maria, Suce, and Veles.

North Santander Department

Between OCANA District and Buenavista, La Playa, and El Chamiso.

Between PAMPLONA District and Pamplonita, Mutiscua, Cacota, and Lavateca.

Between GRAMALOTE District and Santiago, Lourdes, and San Cayetano.

Tomina Police Department

Between ROVIRA District and Corazon, Playa Rica, and Ronsesvalles.

Between ESPINAL District and Flandes, Chicoral, and Gualanday.

Between DOLORES District and Piedras Negras, Pena Alta, and El Prado.

Between CHAPARRAL District and Santa Ana, Ataco, and Coyaima.

Between ARMERO District and Lerida, La Sierra, Venadillo, and Mariguita.

Between Libano District and Murillo, El Convenio, and Villa Hermosa.

IV. MISSION AND ORGANIZATION OF THE NATIONAL POLICE TELECOMMUNICATION SERVICE

A. Mission

In March 24, 1955, the issuance of Decree #883 provided for the establishment of a National Police telecommunications section. This section was reorganized under decree #0696 of April 9, 1957. The telecommunication section was established as a branch of the Department of Administrative Services to perform a dual function:

1. To provide an essential and reliable communications service by maintaining a country-wide police telecommunications system in support of the overall National Police mission.

2. To provide the National Police with an effective and efficient communications service to support police operations regarding Bogota.

B. Systems

To accomplish the above assignment, the following National Police telecommunications systems were established:

1. A country-wide multi-channel relay network using UHF repeaters and VHF terminals provides an operational and administrative channel. (fig. 1 and 2)

2. The National Police have recently installed a simplex SSB network in areas not serviced by the above system. (fig. 3)

3. A municipal police mobile communications system in Bogota provides duplex operation for radio patrol cars. Extended mobile coverage is provided by the use of a microwave relay station located on a mountain top in the northeast section of Bogota.

C. Organization

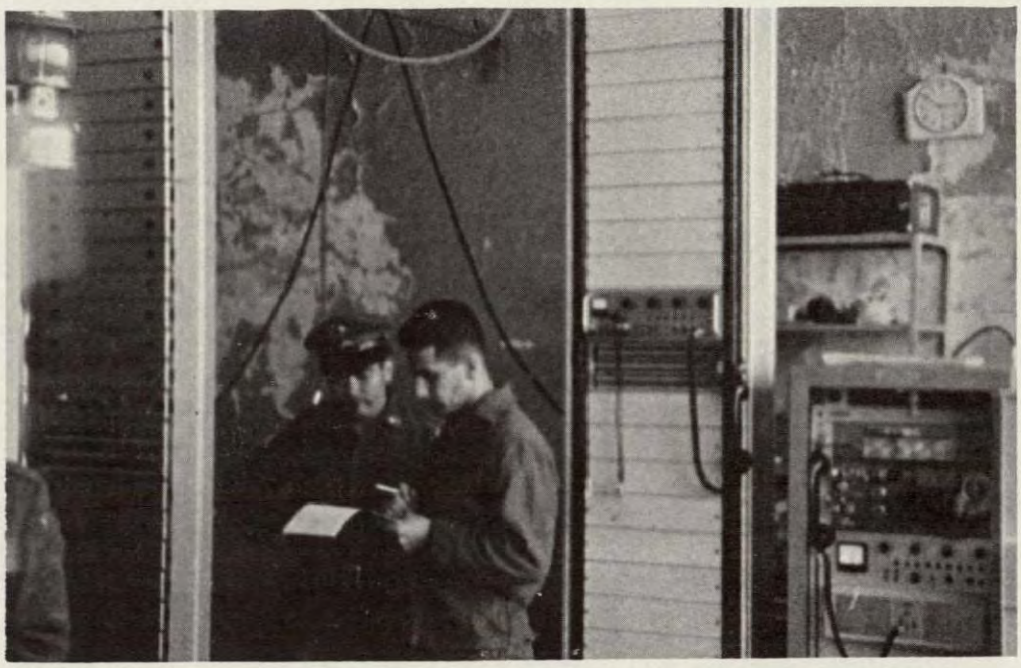
1. The system and personnel of the National Police country-wide telecommunication service are under the operational control and direction of the headquarters telecommunication staff.

2. The National Police headquarters telecommunication staff had 5 police officers to supervise the country-wide telecommunications systems. Because of the limited number of telecommunication officers, little technical and administrative supervision has been provided to areas outside Bogota.

V. FIELD OBSERVATIONS NATIONAL POLICE

A. National Police UHF Relay Network

At Mochuelo the relay station UHF Multichannel and VHF Terminal equipment for both the Army and the National Police are shown. The army is responsible for the maintenance of the principle relay station at Mochuelo. The police also furnish one technician to assist in the maintenance of the relay station equipment.



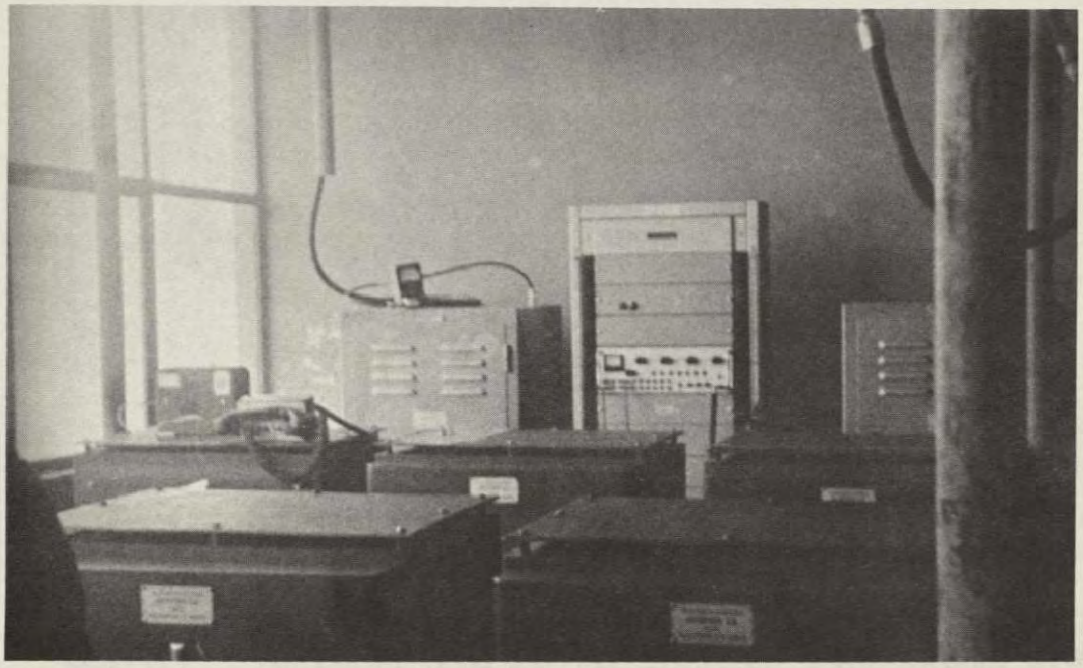
This equipment provides the National Police with circuits to the following cities via the Mochuelo relay station: (See figure 1 and 2)

1. Circuit to Medellin and Manizales via relay stations El Ruiz and El Boqueron.

2. Circuit to Neiva via relay station Manjui.

3. Circuit to Pasto, Popayan and Cali via relay stations Companario, Pan de Azucar, Munchique and Cruz de Amarilla.

4. Circuit to Santa Marta, Barranquila, Cartagena, Monteria, Cucuta, Bucaramanga and Tunja via relay stations Penas Negras, Oroque, El Carmen and San Lorenza.



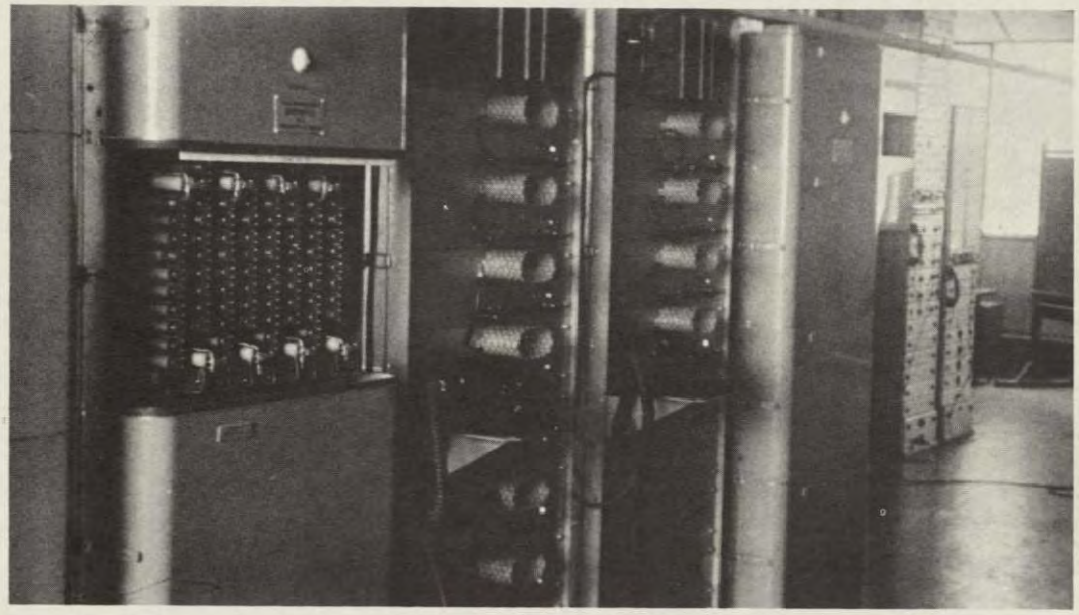
The antenna installation pictured below is typical of many National Police high altitude relay stations. These antennae have been damaged in the past since they are subjected to excessive stresses

The Army has supplied a 30 KW manually operated generator as an emergency power source. The original generators at Mochuelo are defective and beyond repair. When the Bogota City power fails the entire police communications network is interrupted until the operators can manually start generator shown.

The Companario relay station is located on a mountain 9000 feet high. Roads to this relay station are nonexistent and supplies are transported by mules. The relay station building pictured below is adequate to house the equipment but does not offer reasonable living conditions for attending personnel.

B. The Central Radio Station

The main communications center in Bogota is called the "Central" and is located at the intersection of Caracas Avenue and Sixth Street. The Central acts as a message center for the National Police communications network and the Bogota Urban communications system. Twenty-four channel multiplex equipment to connect the Central with Mochelo relay station is shown below. At present 15 channels are in service.



Telephone patching is provided through a central switchboard pictured below. This two position switchboard provided by a Swiss manufacturer is tied into the Bogota commercial telephone system allowing outside calls to be placed through the National Police relay network.

Two direct land lines connecting the Radio Central with the National Police headquarters have been provided by the Bogota telephone company. A duplex teletype circuit is in operation between these points providing a permanent record of command messages. At the Radio Central a teletype operator is shown sending messages to the Central Directorate of the National Police.

The cities serviced by the National UHF Relay Network are also connected with teletype. The Central has facilities for patching 15 teletypes through the voice channels. Pictured below is the teletype facilities located at the Central. It is interesting to note that many of the teletype machines are covered and that only a few teletypes were in operation. A great deal of time is taken up by manual operation of these teletypes since no automatic tape perforaters are in use.

C. Bogota Urban Communications Network

A Microwave link between the Central and the Alto del Cable relay station located on a mountain top in the north east section of Bogota provides total coverage of the Bogota district for patrol car operation. The Urban communications system like the National Police Relay Network is connected through its own central switchboard; here radio patrol cars are dispatched and provisions are provided for the entire system to be tied into the Bogota commercial telephone exchange. Incoming calls from police administrative radio cars may be patched through either the commercial telephone exchange or the National Police Relay Network. Police operator dispatching radio patrol cars in the city of Bogota is shown.

The Bogota Urban communication network has 12 channels available, eight of these are being used by the police and three are loaned to the Army. The use of these channels is as follows:

Channel 1 - Fixed station operation
Channel 2 - Mobile station operation
Channel 3 - Mobile station operation
Channel 4 - Fixed station operation
Channel 5 - Portable units for riot control
Channel 6 - Portable units for riot control
Channel 7 - Mobile station operation

Channel 8 - Mobile administrative operation

Channel 9 - Not used

Channel 10, 11, 12 - Army

Pictured below is the turret positions for the Bogota Urban police telephone system at the Central. This equipment handles all the incoming calls from the civilian population and allows the patching of these calls to the proper department within the National Police. This equipment was manufactured by Erickson and seems to handle the work load required, it provides 20 internal lines and 20 incoming lines of which 12 lines are in use.

D. Maintenance Facilities

Pictured below is the maintenance facility at the Radio Central headquarters which is equipped to repair UHF and VHF equipment as well as handle adjustments of teletype equipment. Here the police are responsible for maintaining the Microwave Relay to Alto de Cable and the UHF Relay to Mochuelo as well as a great many VHF fixed stations being used in the Urban communication network.

The National Police have the following repair facilities located at the telecommunication supply and repair depot in Bogota:

1. Fixed, mobile, portable, VHF, AM, FM and SSB repair shop.
2. Electrical generator repair facility.
3. Battery repair shop.

In addition to the foregoing the police have established five zonal relay repair facilities:

North Zone: Based in Barranquilla and responsible for the maintenance of relay stations at Carmen de Bolivar and San Lorenzo, and the terminals of Santa Marta, Cartagena, Baranquilla and Monteria.

East Zone: Based in Cucuta and responsible for the maintenance of the Oroque relay station and the terminals of Cucuta and Bucaramanga.

Central Zone: Based in Bogota and responsible for the maintenance of relay stations at Mochuelo, Companario, Penas Negras, Quetame and Manjui, and the terminals of Tunja, Ibague and Neiva.

West Zone: Based in Manizales and responsible for the maintenance of relay stations at El Ruiz and El Boqueron, and the terminals of Medellin and Manizales.

South Zone: Based in Cali and responsible for the maintenance of relay stations at Pan de Azucar, Munchique and Cruz de Amarillo and the terminals of Cali, Popayan and Pasto.

VI. CONCLUSIONS AND RECOMMENDATIONS ADMINISTRATIVE DEPARTMENT OF SECURITY (DAS)

A. Conclusions

1. The DAS communications system provides a country-wide HF-AM radio telegraph network (see figure 5), and an urban VHF-FM communication network for Bogota and adjacent field offices. This point-to-point radio telegraph network to a great extent parallels that of the National Police and provides communications to many DAS field offices in areas not serviced by the National Police communications system.

2. The DAS communications equipment used for their point-to-point radio telegraph network is similar to that being used in many countries by amateur radio operators. This equipment is of a design several years old and consequently less efficient. It does not provide the communications reliability required by an organization having internal security responsibilities.

3. Country-wide communications over the DAS radio telegraph network is presently limited to certain hours of the day. These hours of operation are dependent upon the following technical factors:

a. Atmospheric and Ionospheric conditions.

b. Frequency selection.

c. Interference from neighboring countries.

4. The addition to the above technical factors, DAS is also faced with the lack of sufficient qualified CW operators to allow 24-hour-a-day communications. The present DAS communications facilities does not include sufficient area for the construction of adequate antenna systems. The operation of transmitters and receivers for several nets at the same location presents severe operational limitations.

5. A VHF (high band) FM network, through the use of relays, provides DAS with an administrative voice channel between Bogota and adjacent field offices. The DAS radio equipped cars are dispatched and controlled by this VHF network. The mobile equipment is several years old and consequently draws excessive current, which rapidly discharges the vehicles batteries under operating conditions and thus limits their period of use.

6. Several of the major cities are equipped with a token quantity of VHF FM mobile radio equipment. The majority of this equipment is in poor condition and of minimum usefulness.

7. Many tape recorders are used by DAS investigators to record interrogations and monitor conversations pertinent to internal security investigations. There are approximately 80 tape recorders on hand of which 75% are out of service (mostly for lack of spare parts). These tape recorders are from different manufacturers resulting in a greater supply, maintenance and training problem for DAS telecommunications service.

8. DAS maintenance facilities are inadequate. The lack of sufficient space, proper location, appropriate test equipment and sufficient tools limit the maintenance capability of DAS. While the personnel appear to be well-qualified, they are handicapped by these deficiencies. At present, technicians are servicing receiving equipment only a few meters from 1000 watt transmitters.

9. The DAS supply facilities are adequate, and spare parts and equipment are properly stored and stocked. DAS uses a Kardex system with an identification and location file for each item of stock.

10. The Rural Security Service (Rurales) is a section of DAS responsible for intelligence operations in the areas having a high incidence of violence. The Rurales Posts throughout Llanos area are in dire need of reliable communications for operational coordination. Additional communication requirements exist to permit Rurales Posts to communicate with patrols, and require ground to air communications for DAS aircraft resupply operations.

B. Recommendations

At this time, additional new equipment will not increase the efficiency or effectiveness of the DAS communications system other than provide extensions for rural areas not presently serviced. The basic problem is to increase the effectiveness of the present system by more effective utilization of existing equipment, facilities and personnel. In this regard DAS has taken a major step towards an overall solution of their communications problem by integrating their communications facilities with that of the National Police. Public Safety project planning should be directed towards improving the DAS maintenance capabilities and facilities and assisting both DAS and the National Police with their integrated communications project.

1. General

   a. Recommendations pertinent to the integration of National Police and DAS communications facilities outlines in the preceding section (National Police Recommendations) are applicable to DAS as well.

   b. A requirement exists for the improvement of DAS communications site capabilities. Separate transmitter and receiver sites are needed to permit DAS to operate a duplex and simultaneous operation necessary for multiple net control. DAS facilities can be utilized as an emergency back-up to the planned integrated National Police and DAS communications system.

   c. The current DAS telecommunications maintenance facilities should be upgraded to meet present and future requirements. Provisions should be made for adequate space to perform needed maintenance functions.

2. Technical Services

   a. Recommendations dealing with technical services in the preceding section (National Police Recommendations) are also applicable to DAS.

   b. Depending upon the extent to which U. S. resources are planned for by USAID for FY-64 and FY-65, it may be necessary to provide an additional Public Safety technician to assist in training and coordination of the many telecommunications sub-projects.

3. Commodity Support

   a. It is recommended that tools and test equipment be procured to improve the DAS maintenance capabilities and facilities. The establishment of an effective maintenance facility will not only be advantageous to the present DAS communications system but would also be beneficial to the integrated National Police and DAS communication system when implemented.

   b. SSB equipment should be supplied the Rural Security Service Posts (Rurales) to meet their communications needs. The main control channels should net with the integrated SSB communications system. The Rurales Post to Patrol communications requirement can be met with portable SSB equipment described in part 3-b of the preceding section (National Police Recommendations). The Rurales

Posts and Patrols are dependent in most cases on air resupply; therefore, consideration should be given to all ground to air communications without a duplication of operational communications equipment. The use of SSB equipment with an HF-AM Mode would facilitate this requirement as it will function with HF-AM communications equipment in the aircraft. It is recommended that aircraft and all ground units be capable of having at least one channel common to both for ground to air communications. The number of stations required should be determined by DAS.

c. It is recommended that spare parts be procured to repair existing DAS Tape Recorders and sustain their operation. Additional tape recording equipment would be procured to meet the immediate needs of DAS. It is advisable to standardize all future equipment procurement to simplify stocking of spare parts and repair problems.

4. Emergency Funds

a. For the USAID Public Safety support of the DAS telecommunications service to be effective, funds should be available for emergency procurement of miscellaneous items which cannot be anticipated at this time. It is recommended that an "Open-End" type of PIO/C be issued providing up to $5,000 for the procurement of such miscellaneous items over a period of one year.

5. Participant Training

a. USAID should send one participant to the U.S. for Junior Radio Engineering training for a period of 18 months. This would help provide the needed technical support for the DAS telecommunications system and the integrated National Police and DAS communication system.

b. It is recommended that the chief of the DAS telecommunications service be sent on a three-month observation tour of U.S. Police and Military communication facilities.

6. Local Training

a. If any quantity of equipment is purchased by USAID, provisions should be made for the manufacturers' local representative to provide on-the-job, advanced and specialized training in Colombia.

b. There is a requirement to train radio telegraph (CW) operators to permit 24-hour-a-day operation of the DAS communication system needed to support the DAS mission. This training can be provided by local military schools.

7. Future Communications Requirements

a. The VHF (high band) relay network providing DAS with an administrative voice channel between Bogota and adjacent DAS field offices should be limitedly supported with spare parts procurement. This system should be phased out within the next four years and possibly replaced depending upon future DAS operational requirements.

b. It is recommended that the present DAS Mobile communications equipment used in Bogota be phased out and replaced within the next two to five years with more efficient equipment. The existing mobile equipment must however be maintained until the system can be modernized; therefore, limited spare parts should be procured to sustain operations over this period.

VII. MISSION AND ORGANIZATION OF THE ADMINISTRATIVE DEPARTMENT OF THE SECURITY TELECOMMUNICATION SERVICE

A. Mission

In July 18, 1960 the issuance of Decree #1717 created the Administrative Department of Security (DAS) as a successor organization to the Colombian Intelligence Service (SIC).

The DAS telecommunication section was established as a branch of the General Services Division to perform a dual function.

1. To provide an essential and reliable telecommunication service by maintaining a country-wide security communication system in support of the overall DAS mission.

2. To provide an effective and efficient telecommunication service to support DAS operations regarding Bogota.

B. Systems

To accomplish the above assignment, the following DAS communications systems were established:

1. A country-wide Radio Telegraph system provides an operational and administrative net.

2. An urban VHF-FM mobile communication system in Bogota provides simple operation for radio patrol cars.

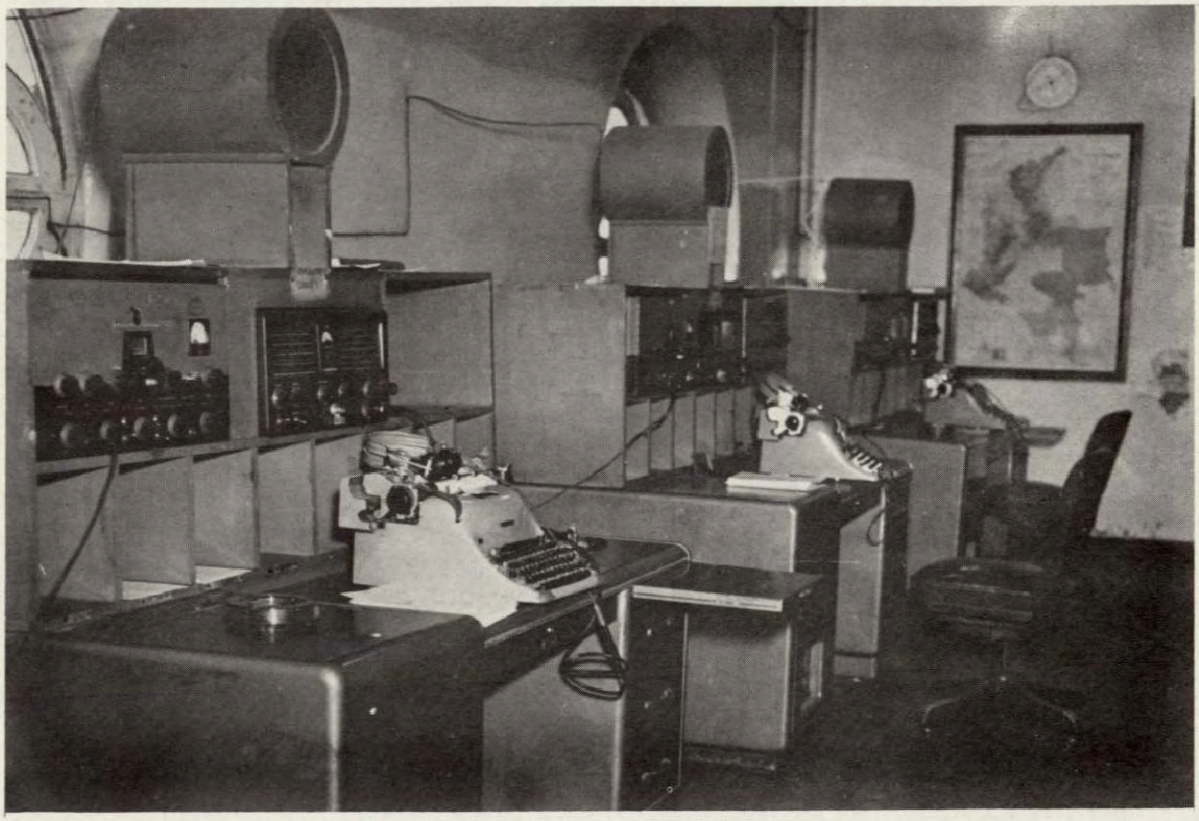
C. Organization

1. The system and personnel of the DAS country-wide radio telegraph service are under the operational control and direction of the headquarters telecommunications staff.

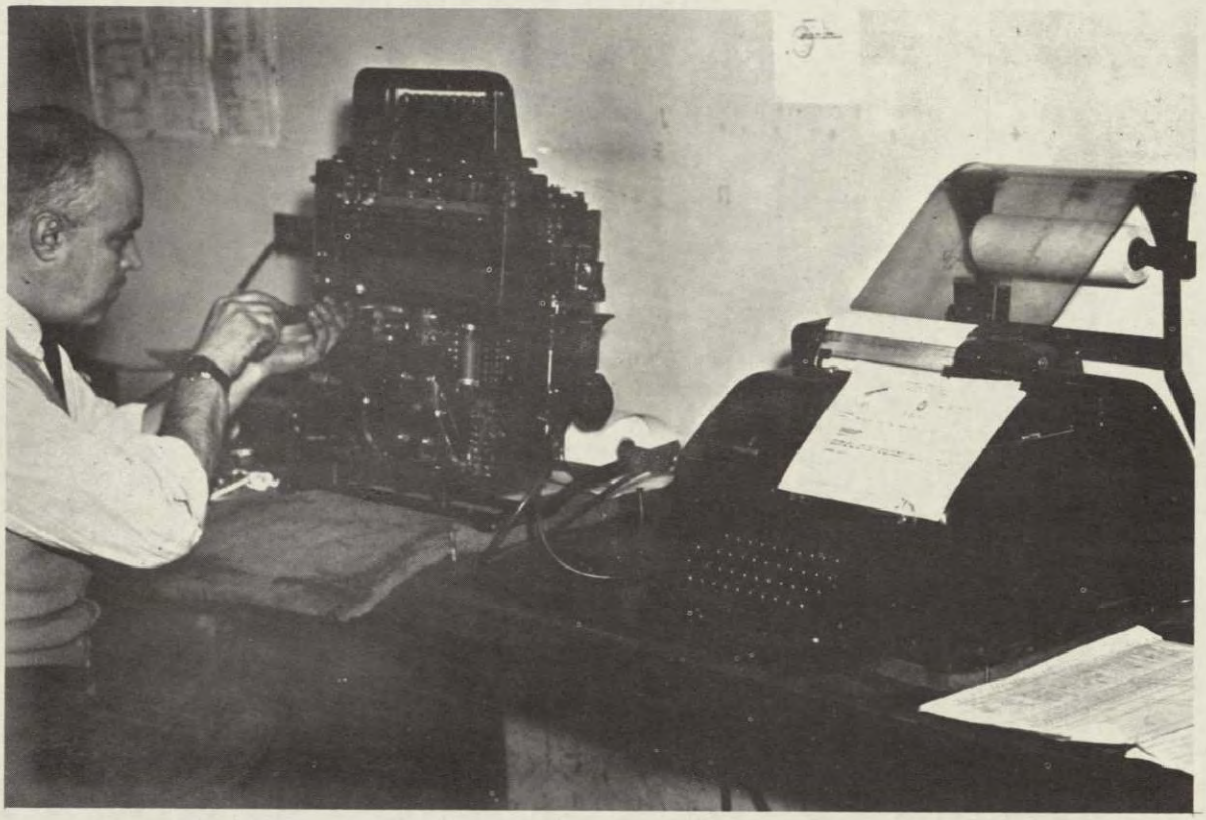
2. The DAS headquarters telecommunication staff has a limited number of officials assigned to telecommunications responsibilities therefore limited technical and administrative supervision has been provided to areas outside Bogota.

VIII. DAS FIELD OBSERVATIONS

DAS main telegraph station is located in the General Services Division building at Bogota. Operating positions for three CW circuits are shown.



Two direct land lines connecting DAS communications center with DAS headquarters have been installed by the Bogota telephone company. A duplex teletype circuit is in operation between these points using Siemens teletype equipment shown below.



The VHF-FM base station located in the DAS communications center at Bogota is pictured below. The base station provides a voice channel to field offices and mobile units.

The racks of equipment in the below photograph consist of tape recorders and mobile radio equipment presently out of service.


ATLANTIC OCEAN
PACIFIC OCEAN
RIOHACHA
SANTA MARTA
GUAJIRA
BARRANQUILLA
San Lorenzo
ATLANTICO
CARTAGENA
MAGDALENA
El Carmen
PANAMA
MONTERIA
NORTE DE SANTANDER
BOLIVAR
CORDOBA
Oroque
CUCUTA
VENEZUELA
ARAUCA
ANTIOQUIA
BUCARAMANGA
El Boque ron
SANTANDER
ARAUCA
MEDELLIN
PTO. CARRENO
QUIBDO
Penas Negras
TUNJA
BOYACA
CALDAS
El Ruiz
CHOCO
CUNDINAMARCA
MANIZALES
Manjui
Cartago
BOGOTA
VICHADA
Tulua
IBAGUE
Mochuelo
Campanario
VILLAVICENCIO
VALLE
TOLIMA
CALI
Pan De Azucar
CAUCA
Munchique
META
VAUPS
POPAYAN
NARINO
FLORENCIA
PASTO
MOCCOA
MITU
CAQUETA
Cruz De Amarillo
PUTUMAYO
ECUADOR
BRASIL
AMAZONAS
PERU
LETICIA
Sta Catalina
Providencia
Colombia
San Andres
Malpelo
N
REPUBLIC OF COLOMBIA 1960
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Km
LEGEND:
National Capitals
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National Boundaries
Departmental Boundaries
Colombia National Police National UHF & VHF Relay Teletype & Voice
Relay Sta. Maintained by Army
Relay Sta. Maintained a by Police

Figure 1

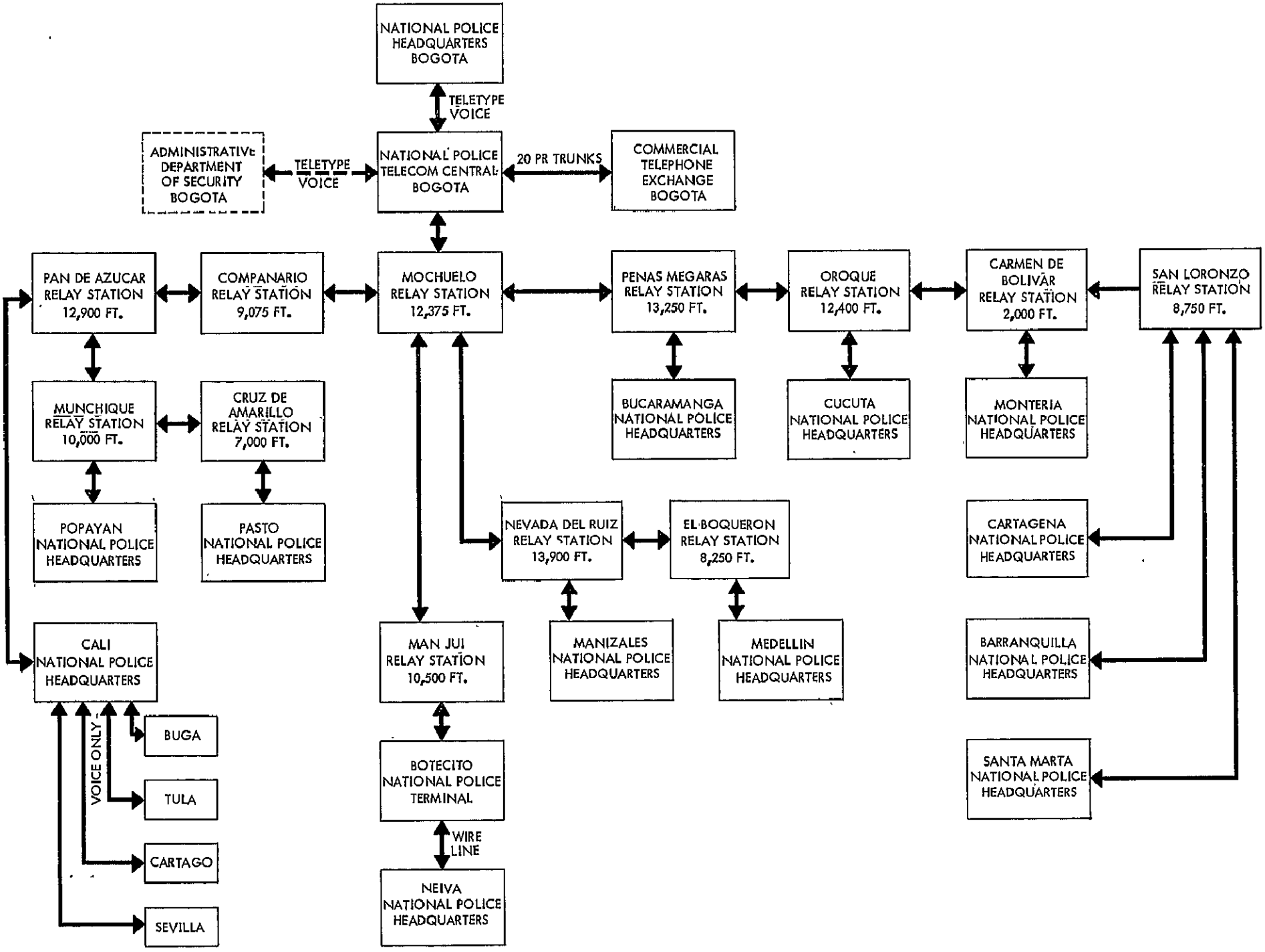
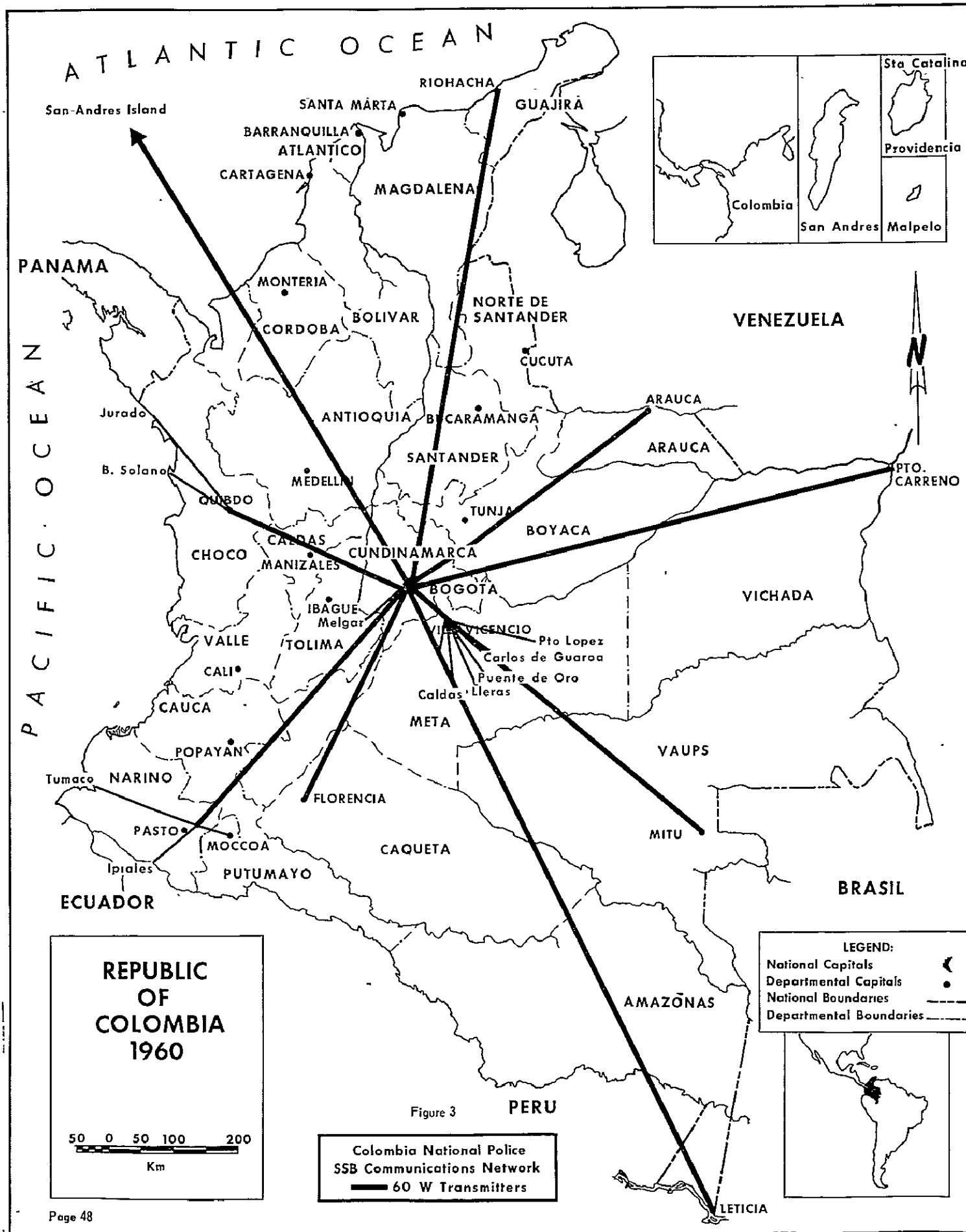


FIGURE 2

BLOCK DIAGRAM OF THE NATIONAL POLICE TELECOMMUNICATIONS RELAY SYSTEM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ATLANTICO
CARTAGENA
MAGDALENA
Sta Catalina
Providencia
Colombia
San Andres
Malpelo
PANAMA
MONTERIA
CORDOBA
BOLIVAR
NORTE DE SANTANDER
VENEZUELA
CUCUTA
Jurado
ANTIOQUIA
BUCARAMANGA
ARAUCA
SANTANDER
ARAUCA
B. Solano
MEDELLIN
PTO. CARRENO
QUIBDO
TUNJA
BOYACA
CALDAS
CHOCO
CUNDINAMARCA
MANIZALES
BOGOTA
VICHADA
IBAGUE
Melgar
VILLAVICENCIO
Pto Lopez
VALLE
TOLIMA
Carlos de Guaroa
CALI
Puente de Oro
Caldas
Lleras
CAUCA
META
POPAYAN
VAUPS
Tumaco
NARINO
FLORENCIA
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PUTUMAYO
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National Capitals
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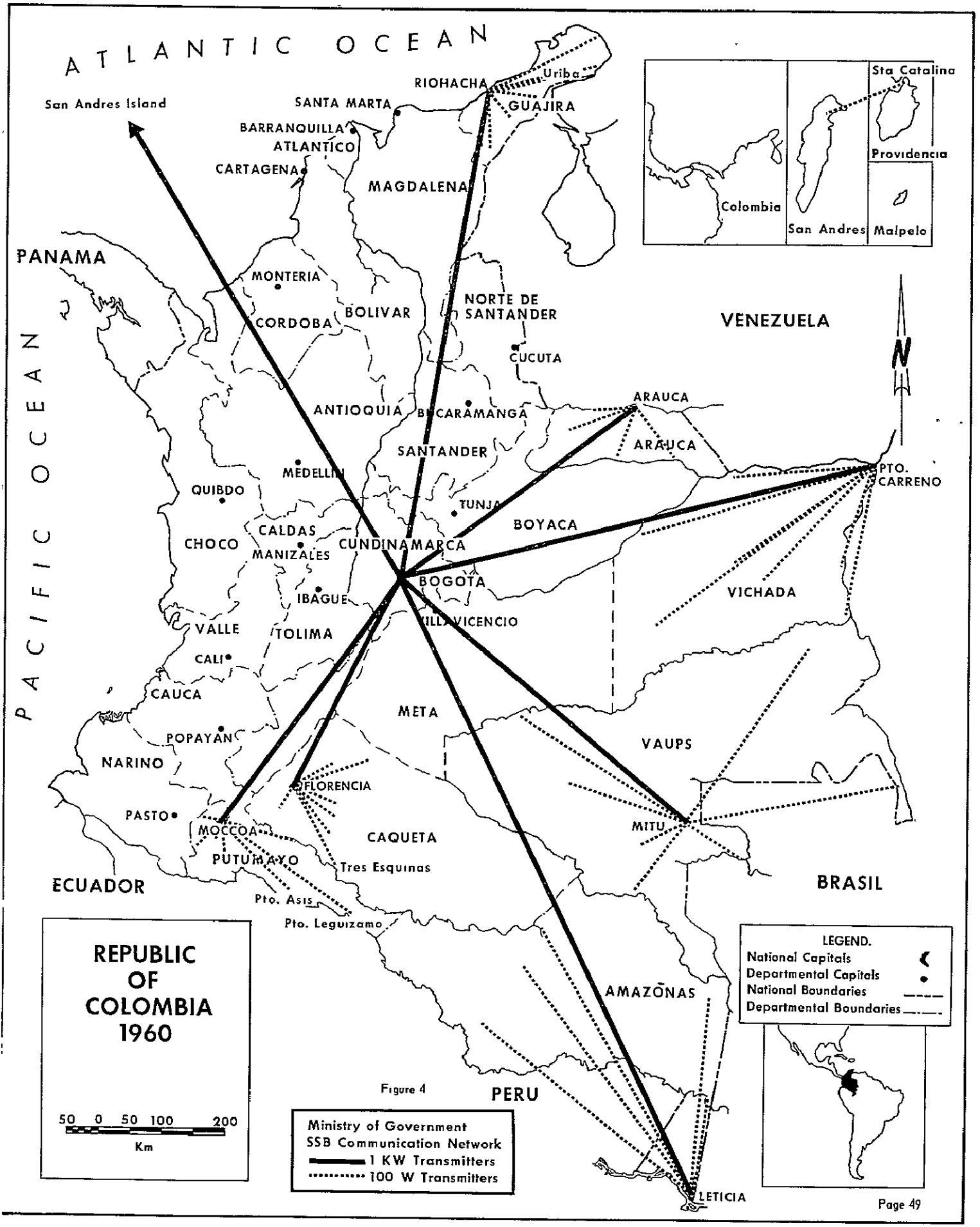
REPUBLIC OF COLOMBIA 1960
50 0 50 100 200
Km
Colombia National Police
SSB Communications Network
60 W Transmitters

Figure 3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BUCARAMANGA
SANTANDER
ARAUCA
MEDELLIN
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CHOCO
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CUNDINAMARCA
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POPAYAN
VAUPS
NARINO
FLORENCIA
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MOCCOA
CAQUETA
MITU
PUTUMAYO
Tres Esquinas
ECUADOR
BRASIL
Pto. Asis
Pto. Leguizamo
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Malpelo
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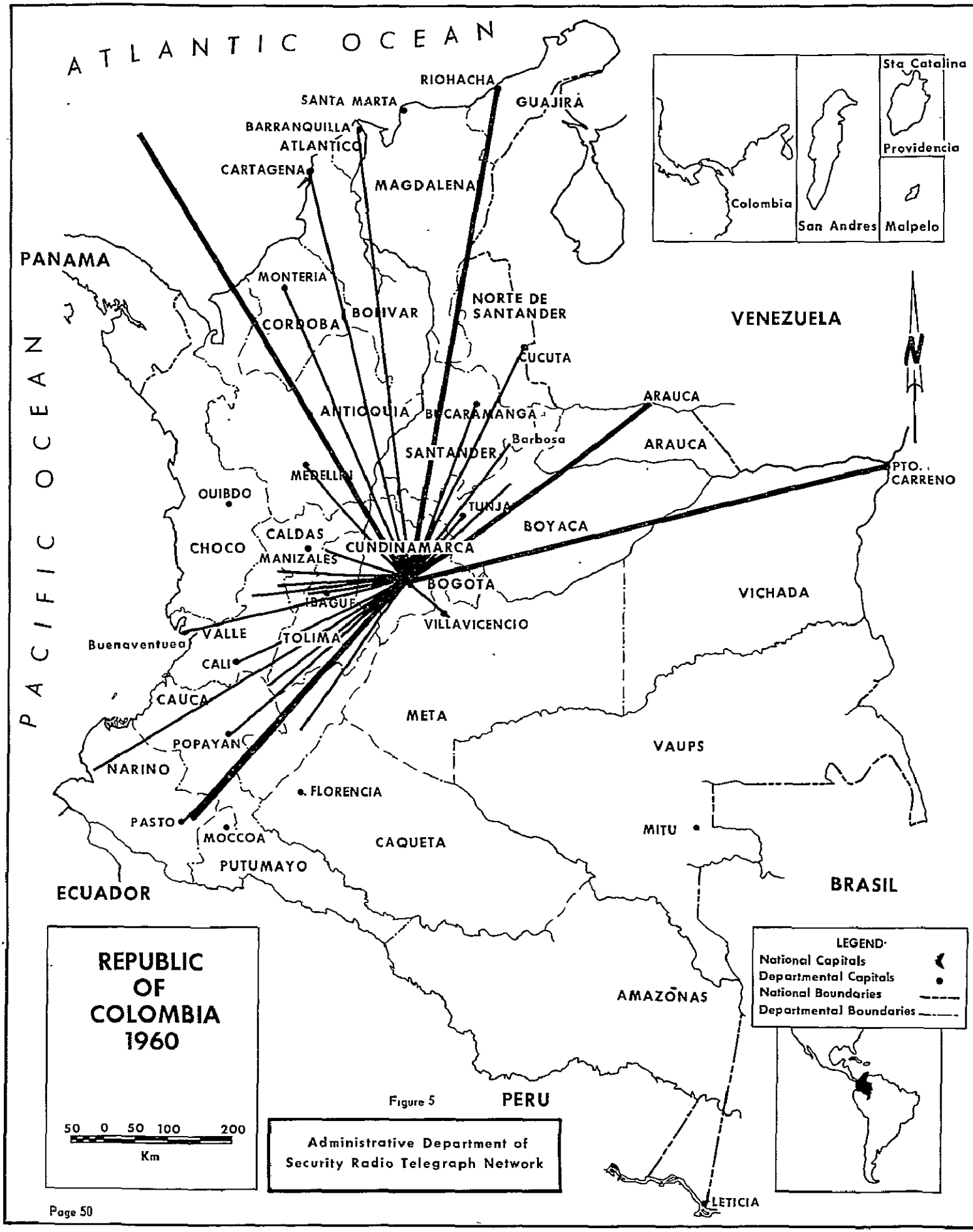
50 0 50 100 200
Km
LEGEND.
National Capitals
Departmental Capitals
National Boundaries
Departmental Boundaries
Ministry of Government
SSB Communication Network
1 KW Transmitters
100 W Transmitters

Figure 4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San Andres
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NORTE DE SANTANDER
VENEZUELA
CUCUTA
ANTIOQUIA
BUCARAMANGA
ARAUCA
Barbosa
SANTANDER
ARAUCA
MEDELLIN
PTO. CARRENO
QUIBDO
TUNJA
BOYACA
CALDAS
CHOCO
CUNDINAMARCA
MANIZALES
BOGOTA
VICHADA
IBAGUE
VILLAVICENCIO
Buenaventuea
VALLE
TOLIMA
CALI
CAUCA
META
POPAYAN
VAUPS
NARINO
FLORENCIA
PASTO
MOCCOA
MITU
CAQUETA
PUTUMAYO
ECUADOR
BRASIL
AMAZONAS
PERU
LETICIA
N
REPUBLIC OF COLOMBIA 1960
50 0 50 100 200
Km
LEGEND
National Capitals
Departmental Capitals
National Boundaries
Departmental Boundaries
Administrative Department of Security Radio Telegraph Network

Figure 5

ATTACHMENT 1

Translation from Spanish

GENERAL STATEMENTS CONCERNING THE COORDINATED USE OF THE COMMUNICATIONS SYSTEMS OF THE NATIONAL POLICE AND THE ADMINISTRATIVE DEPARTMENT OF SECURITY

1. In order to make more efficient the communication services of the National Police and the DAS with greater economy and avoiding duplication of equipment and personnel which in the recent visit to these organizations was encountered by Mr. Katz, AID Advisor, a program of coordination has been agreed upon by the two agencies, that includes in general terms the following points:

a. The headquarters of the Communication Section of the National Police in agreement with the headquarters of the Division of General Services of DAS will proceed to study the physical network and each of the central radio locations of the two organizations in order that they can send messages from one to another at any time.

b. Also the use of personnel must be studied so that with mutual cooperation continuous services will be provided 24-hours-a-day in both agencies.

2. In regard to these points a circular will be prepared which will be sent to the various offices of the police and DAS in the country in order to commence the integration of the two radio networks to conform to the same plan.

/S/
Brigadier General Saulo Gil Ramierez Sendoya
Director General of the National Police

/S/
Colonel (r) Alfonso Rojas Martinez
Chief of the Administrative Department of Security

ATTACHMENT 2

Translation from Spanish

CIRCULAR: Coordination of the new communications system

June 14, 1963

In regard to coordinated use of the new communication systems the general headquarters of the National Police and DAS have observed that the communications of these organizations have serious deficiencies not only in regard to the equipment itself, but also in the uncoordinated way in which it operates, occasionally causing duplication of equipment and inefficiency in service. Since both DAS and National Police are organizations which, in order to achieve security and public order, use similar systems and methods and with the object of working together with more coordination, it is agreed:

1. That the office of the communications section of the National Police in accord with the office of the communications section of DAS proceed to unite by physical lines as telephones, each of the central radio offices of the National Police and DAS in each Department (State) in order that DAS can send its messages through the police channels when necessary and by the same manner the police can send its messages through DAS channels when they cannot use their own.

2. According to the preceeding statement, both DAS and the police must have communication facilities 24-hours-a-day and not as it is now with such facilities only in Bogota.

3. Distribution of the work of the operators of the radio offices will be coordinated in order to supply the personnel necessary.

/S/
Brigadier General Saulo Gil Ramierez Sendoya
Director General of the National Police

/S/
Colonel (r) Alfonso Rojas Martinez
Chief of the Administrative Department of Security

ATTACHMENT 3

Translation from Spanish

MEMORANDUM CONCERNING INTEGRATION OF THE RADIO NETWORK OF THE NATIONAL POLICE, ADMINISTRATIVE DEPARTMENT OF SECURITY AND THE MINISTER OF GOVERNMENT

Bogota, June 14, 1963

1. The purpose of integrating the communication network of these organizations is to give it more capacity, modernize the systems and avoid duplication now existing due to the independent organization and lack of coordination which these agencies have today in their communication systems.

2. It has been established from a technical point of view that this will not present interference in the communications of any other interested organizations despite the present utilization of the system and the complete independence of use, due to the duplex system of teletype which AID proposes to install and due to the amplification of the network of the smaller stations with the central stations.

3. In order to comply with the principle purpose of the division of National territories of the Minister of Government in relation to the services which the network must give to the civilians of the rural areas, it must be kept in mind that the reception and distribution of messages will be in an office to which the public will have free access. It is understood that the agencies involved with this agreement will enjoy equal rights to the use of the network as it conforms to their necessities.

4. The Minister of government will receive special benefit from the proposed plan, as they will have the facility of immediate communication in a duplex system using the existing equipment which the police have installed throughout the national territories with the rest of the republic through the National Police and DAS channels as well as other additional stations which can be installed. The communication representative of AID offers to help establish a teletype system and phone patch in the following locations: Leticia, Florencia,

San Andres, Mitu, Arauca, Puerto Carreno, Mocoa, Richacha and for the central office in Bogota.

5. At the same time the communication representative of AID states that he will send for a period of 2 years a North American technician to organize and assist with the proposed system and to train the necessary personnel.

/S/
Colonel (r) Alfonso Rojas Martinez
Chief of the Administrative Department of Security

/S/
Brigadier General Saulo Gil Ramierez Sendoya
Director General of the National Police.

ATTACHMENT 4

MINUTES OF THE FIRST CONFERENCE SESSION ON THE RADIO-COMMUNICATIONS NET OF NATIONAL TERRITORIES

Bogota, June 26, 1963

On June 26, 1963, in the Office of the Secretary General of the Ministry of Government at 3:15 p.m. the first Conference Session of the Committee of Radio Communications of National Territories was opened. The following interested persons were there:

For the Ministry of Government: Dr. Luis Lopez Guevara, Secretary General, Dr. Fidel Cano Jaramillo, Chief of the National Territories Division, Mr. Alvario Castro Bernal, Fiscal Agent of the National Territories, and Mr. Alvaro Guzman Cortes, Economist of the same Division.

For the Ministry of War: Major Luis M. Chethan B.

For the Ministry of the Treasury: Mr. Carlos Rojas Baquero.

For the Ministry of Communications: Captain de Navio (r) Alfonso Ochao S.

For the National Police: Major Hernando Rojas Currea.

For DAS: Major Alfonso Ferro Saldana and Major (r) Gullermo Pachon de la Torre.

For the American Mission: Colonel L. Grahams, Major Thomas J. Fox of the Military Mission and Mr. John H. Doney of Public Safety, USAID.

Acting as Secretary, Mr. Alvaro Guzman Cortes of the Ministry of Government.

The meeting was opened by Dr. Luis Lopez Guevara who welcomed everyone on behalf of the Government Ministry and thanked them for their interest and assistance on behalf of the Committee. Dr. Guevara particularly welcomed the presence of Colonel Grahams, Chief of the American Military Mission of Civic Action, who knew the development of the plan of a communications net of the territories. Dr. Guevara added that the network such as has been planned will serve, above all, for the development of the remote regions and for the aid of the colonists, with the idea of civic action. However, all of the public entities involved can be used for purposes of the military and public order. He also

stated as he has said to Mr. Torres, that these findings were found in the contract, the initial contract between the Ministry of Government and Teletec for the information of said network. He continued saying that the basic idea of bringing together representatives of the interested entities had that of forming a permanent committee in order to avoid duplication of services, and at the same time to agree upon contribution from the various entities in regard to maintenance service and for preparing regulations for the use of the network. He further stated that the aid provided by the American Military Mission for the radio network as is planned to be installed in the National Territories arose when Colonel Grahams found out about the efforts that were being made by the Ministry of Government for the creation of this network. For that reason he decided to provide aid. Finally he stated he would like to hear the opinions of other representatives.

Captain Ochoa asked explanation in regard to the designating of a committee for regulations. He understood according to the meeting he attended in the American Embassy that Technician Katz sent by AID to establish a radio network for DAS and the National Police, that a contract between the Ministry of Government and other entities had already been arrived at. He asked the information concerning the creation of a radio network for the National Territories be clarified. Dr. Fidel Cano gave this question, the necessary explanation, and added that the network mentioned in addition to aid received by AID had created capital and funds, common funds, for the Intendencias and Comisarias.
Note: Intendencias and Comisarias are territorial divisions almost equivalent to states but do not have the status of states.

Major Chethan indicated that evidently the idea of creating a radio network for National Territories arose in the Ministry of Government and he explained the history of this case, and the intervention of the Ministry of War. He added that the essential condition demanded by the Civic Action Committee of the American Military Mission in order that they could produce assistance was that this radio network be employed fundamentally for the development of civic action.

Major Hernando Rojas Currea explained that the problem for the intergration of the network of the National Territories with those of DAS and the National Police arose when they found out about duplication in services. He explained that in most of the capitols of the Intendencias and Comisaria there was existing police equipment or police equipment has been planned for installation in these

places, and for that reason the radio network of the National Territories indicated duplication of the service of the National Police.

Major (r) Pachon de la Torre suggested that a study of general character be made throughout the country in order to plan communications and in order to avoid duplication. Mr. Doney supported this suggestion. A general discussion then arose concerning duplication and several maps were exhibited in which appeared the different radio networks. It was agreed that a common effort among the various entities represented to integrate the radio systems would result in economy.

Major Hernando Rojas Currea added that Technician Katz had presented a plan for coordination of the communications of the National Territories with other systems but the Ministry of Government had not accepted.

Dr. Lopez Guevara provided information concerning parts of the contract between the Ministry of Government and the Teletec Company.

Captain (r) de Navio Ochoa asked what had happened with the planned established teletype that had been presented by Technician Katz.

Major Hernando Rojas Currea stated that according to the proposal of Mr. Katz these teletypes would be installed to complement the various networks.

Mr. Doney stated that in case the Ministry of Government did not accept the integration of this network with these installations then they would be installed separately in offices of the Police and DAS.

Dr. Fidel Cano Jaramillo intervened in order to explain conditions established by the Ministry of Government. In this respect he expressed that the principal objective of the radio network of the National Territories is to provide administration for them since the Intendencias and Comisarias are responsible to the Ministry of Government. He added also that one of the principal objectives is that of exercising civil action in the territories. He added that such objectives cannot be subordinated to others and he repeated that the objective of the network is essentially civil, and that certain problems would arise if these were installed in offices of the Police. He added that this has been his opinion since the beginning. He also expressed his opinion that the memorandum that was presented by DAS and the National Police as a base for integration of these systems was incomplete and did not include the offers made by Technician Katz in respect to the installation of teletypes nor did it make any other important considerations in regard to this radio network.

Major Hernando Rojas Currea read certain parts of the aforementioned memorandum.

Mjor Chethan noted that the control of the radio network admittedly was in the Ministry of Government.

Dr. Fidel Cano stated that in many of the territories there were no Police posts.

Major Chethan said that he considered it very important that they discuss the question of the maintenance of the network.

Dr. Lopez Guevara discussed the contract between the Ministry of Government and the Teletec Company, in regard to maintenance of radio network by this firm. Captain Ochoa finished explaining the history of this contract, its modifications, and the fact that it had undergone several changes in order to produce the aid and assistance provided by AID.

Mr. Doney mentioned the possibility of North American assistance in the future in order to incorporate a general system of communications in the Republic.

Later there arose a discussion in regard to an integrated system that would include the network of the National Territories. Captain Rojas Currea mentioned the necessity of a central station in Bogota and asked that it be determined if in reality there was going to be established a system completely integrated.

Dr. Fidel Cano declared that before everything else it was necessary to conserve the autonomy of the systems, but without prejudice to the coordination of the various networks in order to amplify them and to provide better service.

The possibility and convenience of effecting a transfer of equipment from those sites where the Ministry of Government proposes to install their equipment.

Dr. Lopez stated that it was necessary to underline two important facts. First, that there was already a network of the Ministry of Government and second, that all the entities and official organizations that were interested could make use of this network.

Major Alfonso Ferro Saldua noted that DAS possesses certain equipment in some of the Intendencias and Comisarias such as San Andres, Arauca and Puerto Carreno. He added that this equipment is in very poor condition. Representatives of DAS mentioned the importance of reviewing the offer made by the North American Technician Katz in regard to the installation of teletypes when the various networks were integrated.

Mr. Doney stated that avoiding any duplication in systems must be the base for any agreement.

Major Chethan noted that it would be necessary to affirm that all the entities interested in utilizing this radio network will have the same rights. He added they should consider the possibility that DAS would use the teletypes and the Ministry of Government only the voice. Later there arose a discussion concerning the technical difficulties that might arise in simultaneous use of the equipment by different entities. It was concluded, however, in accord with information provided by Technician Katz that there would be no difficulty in this respect.

In view of the fact that there was agreement in regard to certain basic questions, Dr. Lopez Guevara declared that the Junta arrived at certain basic conclusions:

1. That the National Territories has this network through the Ministry of Government.

2. That all official organizations and entities could utilize the service of this network.

3. That it is necessary to improve and to amplify this network.

4. That it is necessary to arrive at an agreement between the Ministry of Government, the Police and DAS in regard to the use and maintenance of this network.

5. That the construction of a central station in Bogota is necessary.

6. That the Intendencias and Comisarias create technical responsibilities for the operation and maintenance of the network.

There were a number of observations concerning the convenience or inconvenience of a central station in Bogota maintaining continuous service 24 hours a day. It was concluded that it is advisable to have continuous operation due to the fact that in remote regions emergency cases can arise during the night time.

Dr. Fidel Cano observed that it is very necessary that jobs and responsibilities for operation and use of the equipment be provided through the Intendencia and Comisarias, and referred to the contract between the Ministry of Government and Teletec in which it contemplated the training of personnel on the part of the contract firm.

Mr. Doney added that a technician from the United States would arrive soon.

Through Dr. Luis Lopez Guevara it was proposed that a committee be named to prepare regulations in regard to the functioning, the use, and maintenance of the network of the National Territories.

This suggestion was approved but Mr. Doney and a representative of DAS indicated that it would be convenient and proper to have two committees, one of administrative character and the other of technical character. Finally it was agreed to name only one committee composed of 5 members, representatives of the Ministry of Government, Ministry of Communications, Ministry of War, DAS and the National Police. It was agreed that this committee named would prepare a report no later than the 15th of July, at which date there will be another meeting of the Junta.

Finally territory for the central station in Bogota was discussed and it was observed that there have been offers of lots near the airport. The meeting adjourned at 4:30 p.m.


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