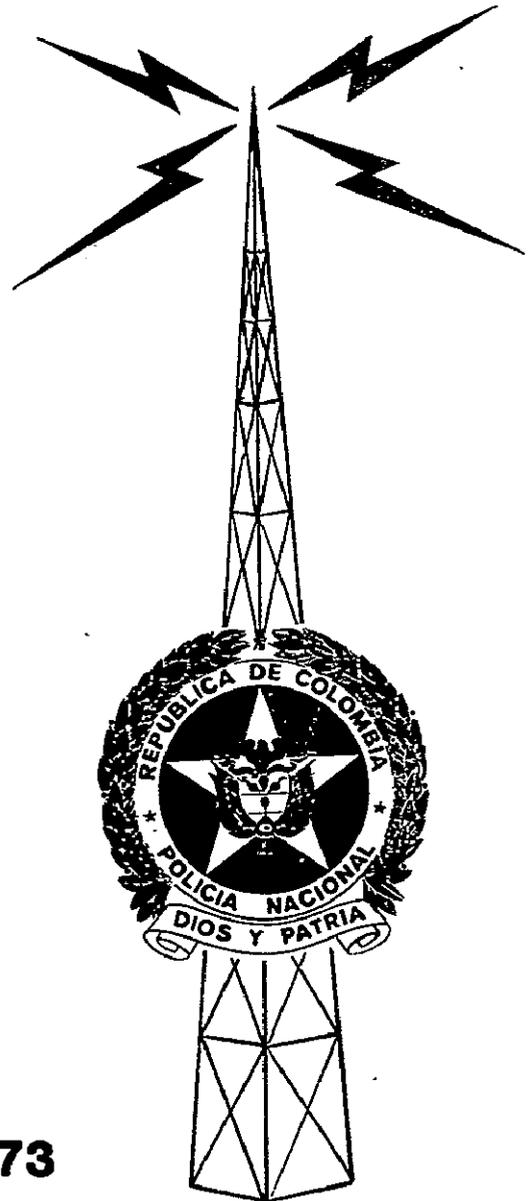
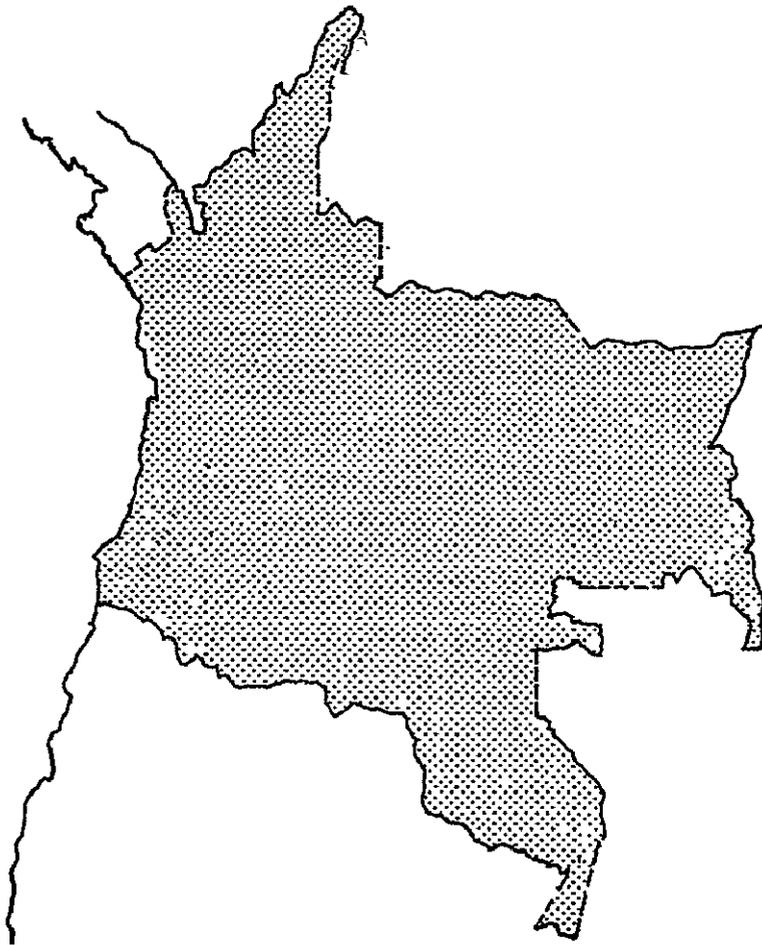


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# EVALUATION OF AID PUBLIC SAFETY COMMUNICATION PROJECT IN COLOMBIA



**AUGUST 1973**

Office of Public Safety  
**AGENCY FOR INTERNATIONAL DEVELOPMENT**  
Department of State  
Washington, D.C.

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DECONTROL FOLLOWING AUG 1977

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I. INTRODUCTION

A. Terms of Reference

State Telegram 104560 sent to the Embassy in Bogota on May 31, 1973, set forth the Terms of Reference for the present evaluation in the following language.

1. The 1971 Project Agreement (ProAg) provided communications technical assistance to the Colombia National Police to complete objectives started under prior year agreements. The proposed PROP would extend technical assistance three years beyond 1973 with \$255,000 for commodities to complete radio networks.
2. AID/W understands that the Government of Colombia (GOC) has decided to procure Autophone equipment from a foreign supplier at a cost of approximately five million dollars. Presumably, some of this new equipment would be available for the National Police.
3. In view of the above, recommend a detailed review by OPS technical representative to determine:
  - a. What is yet to be done to achieve the activity goal in light of the extensive GOC commodity procurement, including an assessment of GOC intentions regarding networks to be established, police needs and compatibility with ongoing telecommunications activity of the project.
  - b. Should the assessment above indicate a need for additional equipment, question then would be could GOC procure with their own funds as against PROP proposal \$255,000 for 1973/1975.
  - c. Whether GOC really desires or needs the continuing services of a U.S. communications technician.

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B. How Evaluation was Conducted

1. The evaluation was conducted by Paul Katz, Chief Telecommunications Branch, Technical Services Division, Office of Public Safety, Agency for International Development, from July 5 to July 20, 1973. Relevant program and technical documents were reviewed in Washington prior to the study. While in Colombia, many National Police communications installations were visited. Consultations were held with senior officials of the U.S.A.I.D. Mission and the National Police.
2. Before leaving Bogota, the writer briefed senior U. S. officials on his principal findings and recommendations. The Acting Public Safety Officer served as the writer's interpreter at the meetings with senior Colombia National Police officials at which time frank conversations were held regarding the necessity to continue U. S. advisory assistance in communications.

C. Contents of Report

1. This report discusses the Colombian National Police communications systems, capabilities, identifies strengths and pinpoints weaknesses and planning deficiencies discovered by the writer during the course of this evaluation.
2. Technical information compiled by the writer for this report was, for the most part, obtained from the National Police. This was necessary because of the lack of detailed documentation made available to and existing within the U.S.A.I.D. regarding National Police communications project planning and systems design.

II. RECOMMENDATION

A. General

The termination of full-time communications advisory assistance and a substantial reduction in U. S. commodity support is recommended. This recommendation is made with full knowledge that senior National Police officials desire the Public Safety Communications Project to continue and that there are still some areas where advisory assistance could be effectively employed. These areas are discussed in this report. However, the program of assistance to the National Police has substantially achieved its original objectives and, unless new programming goals are identified and approved, continuation of the Public Safety Communications Project can no longer be justified. The National Police Communications Section can stand on its own and should be encouraged to do so.

B. Public Safety Advisory Assistance

1. To National Police Communications Section

- a. Direct-hire advisory assistance to the National Police Communications Section should be terminated. These advisory efforts were concentrated on the "nuts and bolts" aspect of the program (training, maintenance and installation) and are no longer necessary.
- b. U.S.A.I.D. funded local contracts to provide technical services to the National Police (logistician and radio technician) should be terminated.

2. To National Police Planning Staff

- a. The Public Safety Communications Advisor should be extended for a maximum period of six months to assist the National Police Planning Staff in the following specific tasks:

- (1) Develop a long range plan which will provide guidelines to assure future

development of effective communications systems in support of National Police operations.

- (2) Develop non-proprietary specifications for urban communications equipment to be purchased by the National Police through a proposed loan.
- b. Communications advisory assistance outside the above outlined tasks is not required. The National Police communications personnel are fully capable of installing and maintaining any equipment they acquire and should bear the sole responsibility (sans advisor) for this effort.
- c. The length of time allocated (six months) for the U. S. Advisor to assist the National Police perform the tasks outlined in paragraph "a" above is believed more than adequate.
- (1) It is recognized that this time would, to some extent, be dependent upon the speed of the National Police in getting the job done, therefore, it is recommended that they be told that full-time U. S. advisory assistance in communications would not be extended more than six months and they should make every effort to accomplish their long range planning within the time allocated.
  - (2) The arguments advanced that the technical guidance and stimulus afforded by the Advisor would warrant another full tour cannot be justified as far as the communications project objectives are now defined. Instead it would tend to be counter-productive by not encouraging the National Police to stand on their own feet.

3. To Urban Police Activities

The major communications problems identified in urban police activities are non-technical. The Communications Advisor cannot assist the

National Police resolve these problems. What is needed is a more effective utilization of existing and future radio patrol cars, facilities, and personnel. A Public Safety Advisor is required, however, this Advisor should be a Generalist and not a Communications Technician.

4. From AID/W

The National Police should be advised of the cut-off date of full-time communications advisory assistance and made aware that, should the necessity arise, short term advisory assistance could be obtained through TDY personnel from the Office of Public Safety, AID/W.

C. Commodities

1. General

Future costs for communications equipment should be borne by the GOC. National Police requests for U. S. loans to finance critical communications equipment shortages should be encouraged.

2. PROP

In regard to the section of the U.S.A.I.D. FY 1973 PROP submission dealing with communications commodities, the following recommendations are offered:

- a. The request for \$155,000 to complete the Administrative Interdepartmental Radio Communications Network should not be approved.
- b. The request for \$100,000 for urban and rural tactical network should not be approved.

3. ProAg

- a. FY 1973 funds (\$50,000) obligated under the ProAg should not be used for radio relay

communications equipment. It should be used to purchase 10 teletypewriters and 22 Telex terminals for use on leased TELECOM lines. Assurances should be received from the National Police that their existing TELECOM contract has been extended to all Department capitals.

- b. FY 1973 funds (\$5,000) obligated under the ProAg for spare parts should be approved. The National Police should be notified of this cut-off date and encouraged to provide for such costs thereafter in their budget.

#### 4. Continuing Commodity Support

A small commodity input should be provided for FY 1974 and FY 1975. The amount should not exceed \$10,000 annually and should be utilized for communications material to support residual Public Safety advisory efforts.

### D. Training

#### 1. Participant Training

- a. U.S.A.I.D. should sponsor several National Police officers to receive specialization in Metropolitan Police Patrol operations. Participants should be those that will be assigned to urban police activities and be responsible for coordinating the utilization of a radio patrol car system.
- b. It is recommended that several National Police officers be placed in English language training and that U.S.A.I.D. sponsor two participants a year (CY 1974 and CY 1975) for the Telecommunications Management Course in the U. S.

#### 2. Local Training

U.S.A.I.D. should continue the local University contract to train National Police officers in

Electronics Engineering for one more year. Approximately \$6,700 should be allocated in FY 1974 for this purpose.

E. For National Police Action

1. The National Police should restrict their administrative use of new urban mobile communications equipment. The present use of thirty (30) new UHF mobile transceivers in Bogota for this purpose should be reviewed.
2. The National Police should re-crystal several of their now excess VHF Autophone repeaters at Alto de Cable to the mobile transceiver frequency of the U. S. provided equipment and, thereby, extend its coverage. Consideration should be given by the National Police to utilize this VHF equipment for administrative and/or highway patrol purposes.
3. The National Police should more fully utilize their urban radio communications equipment. This recommendation would require, as a start, a drastic improvement in radio patrol car deployment.

III. SUMMARY

A. Program Goals

1. General

Public Safety Program efforts were directed to develop adequate National Police communications systems and an organization to provide essential communications in support of the police mission. One of the principal measurements in this regard is the present ability of the Colombian National Police to fulfill its assigned mission and can be viewed as directly proportional to its ability to communicate among its elements.

a. Administrative Communications

(1) The National Police operate an extensive high frequency single sideband (HF/SSB) radio-phone network which provides satisfactory communications from the General Directorate to all Departments and major police locations (Figure 1). HF/SSB radio teletype equipment provided by U.S.A.I.D. has been installed and is operational in some eleven major Departments. This provides the National Police a necessary radio teletype backup capability to an antiquated and unreliable mountain top UHF radio relay system. (Figure 2).

(2) The National Police have recently signed a contract (Annex A) with TELECOM, a GOC organization for leased teletype lines, to connect Bogota to 11 major Departments. Included is a direct telephone line from the General Directorate to the TELECOM Central Exchange which will allow direct long distance dialing.

b. Urban Communications

Many of the urban areas outside of Bogota have only token communications networks. In Bogota where a good communications system is in operation, poor operational procedures and a large number of deadlined patrol cars detract from its effectiveness. U.S. commodity and advisory assistance to improve urban police communications were minimal and, consequently, did not produce the desired improvements. Auto maintenance assistance has not been requested of the U. S. and has not been an activity of the project.

c. Rural Communications

Communications coverage has been extended to rural areas in some 13 Departments. This has substantially improved the National Police capability to provide services to these rural areas. A major input of U. S. assistance has been concentrated in the development of intra-departmental tactical radio networks. This equipment, comprised of approximately 1,500 radios, has been installed (some as early as 1965) and is still operational. In many remote areas, it provides the only means of communications available to the GOC.

d. Facilities

The recent construction of new National Police communications facilities marks the successful completion of a major project objective for the past 10 years. The National Police have constructed a new communications center and maintenance depot, transmitter site and receiver site. The construction of separate transmitter and receiver facilities now permits duplex operation on the HF/SSB network and increases its message handling capability.

e. Technical Support

Public Safety communications project efforts to increase the technical support capabilities of the National Police Communications Section has been most successful and the following major activity objectives achieved:

- (1) Adequate supply and maintenance facilities were developed. The National Police have logistical support capabilities at four regional locations as well as that in Bogota and fully equipped maintenance facilities in 13 Departments. In addition to tools, test equipment, and spare parts, U.S.A.I.D. provided two contract technicians in logistics and radio repair to assist in this effort.
- (2) A professional communications organization was created with sufficient personnel authorized (Figure 3).
- (3) Training programs were initiated and a large number of technicians graduated. Electronics training aids were provided and a training center established within the National Police Communications Section. A local University and several technical schools were also utilized to obtain the training required.

B. Effectiveness of the Public Safety Program1. General Assessment

- a. Although the National Police Communications systems and organization is still far from optimum by U. S. standards, it has improved dramatically from what it was prior to the initiation of U. S. assistance in 1963. The Public Safety Program is judged to have been very successful in developing National Police communications capabilities and most of the original U. S. goals are believed to

have been achieved. In most cases, the length of time to develop National Police communications systems and capabilities has been beyond that originally conceived. This can be attributed to some extent to the continuing changing of priorities by the National Police and Ministry of Defense (MOD) and, on occasion, problems of proper coordination between the U.S.A.I.D. and the National Police.

- b. The National Police now have the capability to support and maintain their present equipment which includes some fairly complex and sophisticated communications gear. Numerous qualified police technicians are on the job and, in a short period of time, several more locally trained engineers will be available to provide additional depth. A technical training school has been established within the National Police and has proven to be highly successful, conducting continuing courses for communications technicians.

C. Public Safety Communications Planning

1. U.S.A.I.D. has not prepared or assisted the National Police in developing a long range communications plan. Should U. S. assistance be terminated, a plan of this type would be especially useful to provide the National Police guidelines whereby new and/or replacement equipment could be purchased in concert with GOC priorities and resources.
2. U.S.A.I.D. reported in 1969 that, with minor exceptions, Public Safety communications plans and programs continue essentially as outlined in the 1963 OPS/W survey. They further reported that the efforts of the communications program were primarily directed towards completing equipment installations, the development of a professional communications organization and the training of technical personnel.

3. In the FY 1973 PROP, U.S.A.I.D. proposed continuing advisory assistance to FY 1975 and providing \$255,000 for commodity assistance during this period. Of the amount requested, \$155,000 was discovered to be for communications equipment not compatible with previously identified program goals. The remainder of \$100,000 was requested to purchase urban communications equipment. This request is no longer believed valid in light of current National Police efforts to obtain several times this amount of equipment through a loan.
4. U.S.A.I.D. plans to provide the National Police urban tactical communications equipment to support narcotics control activities at a cost of approximately \$110,000. The provision of this type equipment would not require the continued presence of a U. S. Communications Advisor. The communications personnel of the National Police have demonstrated an ability to properly install and maintain this type of equipment without U. S. advisory assistance. If U.S.A.I.D. desires, to assure that the installation of this equipment was in accordance with professional standards, TDY personnel from AID/W could be provided.
5. In the ProAg, FY 1973 funding for communications commodities is \$55,000 of which \$50,000 is for new equipment and \$5,000 for spare parts. This ProAg has been approved and signed by both the GOC and U.S.A.I.D. U.S.A.I.D. has recently been requested by the National Police to honor this commitment.
6. The Mission's obligation under the ProAg to provide \$50,000 for new communications equipment could be satisfied, if necessary, by providing teletype machines with direct-dial Telex terminals for National Police use on TELECOM leased lines. This

recommendation was discussed with officials of U.S.A.I.D. and the National Police and is believed to be the most beneficial use of the money committed under the ProAg. TELECOM GOC personnel are fully capable and have indicated that they would assist the National Police in the installation of this equipment.

D. National Police Planning

1. The National Police communications personnel have, in conjunction with equipment suppliers and without U. S. technical assistance, planned communications networks to satisfy police operational needs. In this regard, they have demonstrated that they possess the capability to specify equipment needed and acquire the funds to purchase communications equipment they deem essential. Their ability to prepare equipment specifications and select proper equipment is demonstrated in the Bogota urban police communications system. The quality of the foreign equipment provided is believed excellent, however, the purchase of 120 mobile radios for patrol purposes with only one channel and no provision for expansion would restrict future radio patrol car deployment. U. S. assistance in this area is believed necessary and can be accomplished within the time frame recommended in this report.
  
2. The National Police proposed to procure, through a loan, urban tactical communications equipment. This amount has fluctuated over the past months from \$1,600,000 to \$700,000 U.S. and is still not firm. National Police personnel are fully competent to install and maintain any such equipment acquired and full-time U.S. communications advisory assistance is not needed. Should U.S.A.I.D. desire, to assure that the installation of this equipment is in accordance with professional standards, short term TDY assistance could be provided at such time as the equipment is in country.

3. The National Police realize that the U. S. provided tactical transceivers will start to deteriorate because of age in the next few years and will require replacement. They have allocated seven million pesos (\$300,000 U.S.) in 1973 to purchase replacement equipment. The National Police Communications Section prepared an equipment renewal plan to include in the 1973 - 1977 GOC budget requests. The Chief of the National Police Communications Section, on request, provided the writer a copy of this document (Annex B). The National Police Communications Chief stated that parts of this plan to purchase multi-channel relay equipment were no longer applicable in view of the MOD intention to purchase a new microwave multi-channel relay system to replace the antiquated Army/Police UHF relay system. This National Police equipment renewal plan was shown to the Public Safety Communications Advisor and, in discussions with the writer, it was apparent that he was not familiar with the document.

E. National Police Officials Attitude Regarding Continuation of Communications Program

1. National Police officials believe that continued U. S. technical assistance is essential. They base their determination on the lack of management and planning experience on the part of their personnel and their proposed procurement of a large amount of communications equipment for urban police activities.
2. The Director General of the National Police in a letter to U.S.A.I.D. dated July 18, 1973, indicated his concern that the Public Safety Communications Project not be terminated. (Annex C).
3. The National Police now propose to utilize the advisor at the staff planning level to assist them in long term planning. This could correct several noted deficiencies in coordination and planning discussed in this report. The tasks identified, however, and the type of assignment

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may not require the amount of time (two years) requested by the National Police in Annex C.

4. In most cases, the National Police did not utilize the advisor's services for planning where U. S. dollar input was not involved. Thus, one questions whether the concern is based on losing advisory assistance or of obtaining continued material assistance.

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#### IV. FINDINGS

##### A. Public Safety Communications Project

###### 1. Pre-Project Survey Goals

A study of the Colombia National Police Communications capabilities, facilities and organization was conducted by this writer for the Office of Public Safety, AID/W, in the summer of 1963. Based upon the findings and recommendations contained in this study, a project to assist the National Police improve their overall communications capability was initiated. The goals identified at that time were as follows:

- a. To assist the National Police develop a capability to pass administrative and operational command level traffic country-wide.
- b. To assist the National Police develop a tactical communications capability in the urban and rural areas.
- c. To assist the National Police develop a communications organization capable of managing, operating, and maintaining all their communications facilities.

###### 2. U. S. Expenditures in Support of Public Safety Communications Project

To this end, the U. S. Government has expended about two million dollars; approximately 1.5 million dollars for commodities, and the rest for over ten man years of direct hire advisory assistance and approximately nine man years of contract technician assistance.

##### B. Organization

1. One of the major Public Safety Program achievements is easily identified when one compares the present organization and reservoir of trained National Police personnel to that which existed prior to U. S. assistance.

2. A reorganization of the National Police Communications Section was accomplished the early part of 1971. The new Communications Section is organized as shown in Figure 3. It places the communications personnel at regional maintenance centers under the direct administration and operational control of the Communications Section Chief (Lt. Colonel position). The Communications Section is presently authorized a total of 241 positions:

Officers.....	13
Sub-officials...	124
Agents.....	69
Civilians.....	35

All of the personnel have completed or are engaged in formal training programs. The present Communications Section Chief attended a six month radio technician course in the U. S. as an OPS participant. There are currently 22 officers assigned to the Communications Section. Of this number, 16 are full-time students receiving training in technical subjects.

3. Prior to U. S. assistance (1963), the total complement of the Communications Section included 49 officers and men. Of this number, approximately 13 could be considered as trained and capable of maintaining police communications equipment. At that time, because of the inadequate number of trained officers and technicians, little supervision or support was provided police communications activities outside of Bogota.

C. Administrative Interdepartmental Communications System

1. HF/SSB Radio-Phone Network

The National Police presently operate a simplex HF/SSB radio-phone network connecting their headquarters in Bogota with all the Departments and other major police locations throughout

the country. (Figure 1). An average of 8,000 messages a month are passed over this network. Over 100 HF/SSB transceivers both foreign and U. S. were purchased by the National Police for this network at a cost of approximately \$200,000 U.S. This equipment, for the most part, has been well-maintained and is in good condition. More than half of these units were purchased within the past three years.

2. HF/SSB Radio Teletype Network

- a. U.S.A.I.D. has provided the National Police a HF/SSB radio teletype network connecting 11 major Department police headquarters with the General Directorate in Bogota. In Bogota, separate transmitter and receiver sites have been placed in operation whereby the National Police are now capable of duplex operation (simultaneous transmission and reception) to some distant stations.
- b. An average of 18,000 messages a month are sent over teletype circuits. It was not possible to obtain a message count for the radio teletype system alone, however, it was noted that few teletype messages were being sent over the antiquated Army/Police UHF relay network.

3. Army/Police UHF Relay Network

One of the major pre-project recommendations made in 1963 was that the National Police stop supporting the joint Army/Police UHF relay network. This system shown in Figures 2 and 4 utilizes 12 high altitude relay points of which seven are the sole responsibility of the National Police. The system is highly vulnerable as the failure of one remote relay station could disrupt communications to an entire area serviced by the relay link. Not only do the living conditions present a severe hardship to the National Police personnel but the expense

to operate and maintain these high altitude sites is economically prohibitive. The 1969 Evaluation Report of the Public Safety Program in Colombia points out that approximately 80% of the National Police communications budget and a substantial amount of their personnel are expended to maintain the mountain top relay system. For these reasons, U.S.A.I.D. has supported an HF/SSB radio-teletype network for the National Police in preference to any type of multi-channel relay system.

4. Prior U.S.A.I.D./GOC Planning for Common-User System
  - a. Some of the radio teletype equipment provided by U.S.A.I.D. was originally intended for a common-user type system, to increase the message handling capabilities of the Ministry of Government HF/SSB network and assist in the integration of National Police and Department of Administrative Security (DAS) communications facilities. This was never achieved and can be mostly attributed to the high level personnel changes in the agencies concerned made shortly after the original 1963 agreements had been reached. Although exerted efforts were apparently made by the U.S.A.I.D. to coordinate communications planning with the three agencies concerned, interagency jealousies precluded this.



**U.S.A.I.D. Provided Teletype Equipment**

- b. In 1967, the efforts to form a common-user type communications system was dropped and plans to develop an independent National Police HF/SSB radio teletype network implemented. (See Annex D). In the 1969 evaluation, it was reported that once the U.S.A.I.D. supported HF/SSB radio teletype network is operational that the National Police will probably realize that this is the way to go and will expand this type of service and withdraw their support of the Army/Police mountain top relay system.

**5. U.S.A.I.D. Planning for New UHF Relay Network**

- a. U.S.A.I.D., in the FY 1973 PROP submission, requested \$155,000 to purchase UHF relay

equipment to parallel the present antiquated Army/Police UHF mountain top relay system. This action was apparently taken by the U.S.A.I.D. in response to National Police efforts to obtain a multi-channel relay system which would be under their direct control. The installation of the proposed UHF relay equipment would require that the National Police continue to support the high altitude sites throughout the country and was not compatible with previous AID/W and U.S.A.I.D. project planning or goals.

- b. U.S.A.I.D. decision to provide UHF relay equipment to the National Police was not identifiable in the PROP and only surfaced through a TDY report by an OPS/W representative in May 1973. In the TDY report, we were advised that:
- (1) The MOD intended to purchase a multi-channel microwave relay system to replace the antiquated Army/Police UHF relay system.
  - (2) That this system would most likely require 26 months installation time.
  - (3) That U.S.A.I.D. proposed to pursue the acquisition and installation of a parallel multi-channel UHF relay system for the National Police to service 15 major cities; and
  - (4) That U.S.A.I.D. proposed to relocate the UHF relay equipment to other areas not serviced after the MOD system was installed.
- c. The rationale and events which led to the U.S.A.I.D. decision on commodity procurement are included under Annex E. This Annex was prepared by the Public Safety Communications Advisor at the specific request of the writer when it was discovered that there was

no substantive documentation regarding this event or written plans to support the PROP submission. A statement on page 53, Annex E, concerns a decree issued by the MOD that all future plans for communications procurements would be submitted to a technical committee for a compatibility study. This decree apparently was originated when the MOD became aware of the National Police/ U.S.A.I.D. plan to parallel the proposed multi-million dollar MOD communications facilities.

6. Telecom Contract

Over the years and coincidental with the completion of a country-wide microwave system for TELECOM (a GOC long distance telephone company) the National Police have been advised by U.S.A.I.D. to utilize TELECOM facilities wherever possible. The National Police have been reluctant to utilize TELECOM facilities, for security reasons and possible compromise of messages and aspired to obtain a multi-channel radio relay system under their own direct control. The MOD decree discussed above would, however, prevent the National Police from achieving this objective. The police have signed a contract (Annex A) with TELECOM concerning the leasing of teletype lines to eleven Department capitals (Figure 5). The National Police have indicated a desire to expand this contract to include all 22 Department capitals should the necessary teletype and Telex equipment be made available through U. S. funds.

D. Urban Communications Systems

1. General

It is recognized that the National Police urban communications capability outside of a few major cities is inadequate. It will require an exerted effort on the part of the National Police to obtain the funds necessary to purchase

sufficient radio equipment and the planned loan purchases is a step in this direction, however, new radio equipment is not the complete answer to urban police problems. What is needed is a more effective utilization of existing equipment, facilities and personnel. Within the major cities, poor operational practices and inadequate utilization of existing equipment will continue to reduce the efficiency of police radio patrol car activities. One of the major continuing problems noted was the high vehicle deadline rate currently believed to be approximately 50% of the fleet. The advisory efforts needed to improve police radio patrol car activities are beyond the capabilities of most Public Safety Communications Advisors. It requires the expertise of a Public Safety Generalist knowledgeable about all operational facets (records, identification, dispatching, patrol techniques, etc.) of urban police activities.

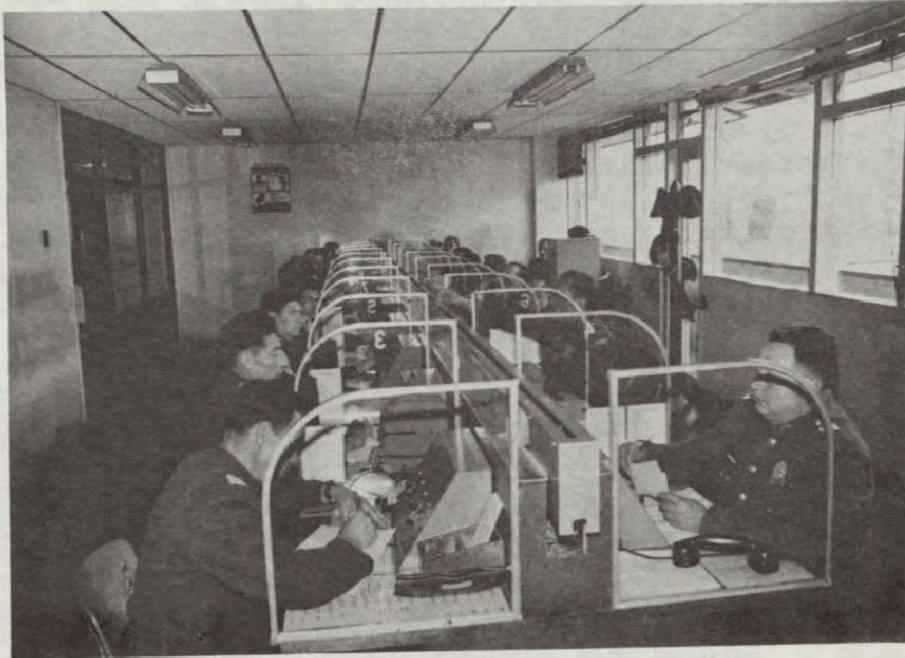
2. Bogota Station 100

- a. The National Police have purchased a large amount of foreign manufactured radio equipment for their Bogota urban operations. This equipment was purchased in 1971 at a cost of approximately \$410,000 and most of the installation is completed. The Bogota National Police Urban Radio Network shown in Figures 6 and 7 makes excellent use of a mountain site (Alto de Cable) northeast of Bogota to extend radio coverage. The foreign equipment provided is believed to be of excellent quality, however, the lack of sufficient channels on 120 of the mobile units could hinder the future growth of the Bogota radio patrol car operations. The system design and equipment selection was accomplished by the Autophone Company engineering representatives and the prior Chief of the National Police Communications Section. The Public Safety Communications Advisor was not involved or consulted,

consequently, the three U. S. control consoles and display map provided in FY 1970 (at a cost of approximately \$48,000) for police operations in Bogota were not fully compatible with the foreign control center equipment purchased by the National Police. Inasmuch as no prior coordination had been effected, efforts to integrate U. S. and foreign control center equipment were necessary after the fact.



U. S. Provided Control Consoles



Station 100 Telephone Operators

- b. It was noted that the automatic document conveyor system provided by U.S.A.I.D. was not being properly used and the planned expeditious transfer of information from some 20 telephone operators to three radio dispatchers was not fully accomplished. Further, the IBM cards prepared by Public Safety Advisors as a means of acquiring and retaining statistical data were only occasionally employed. In most cases, a piece of paper was used to pass information from the telephone operator to the radio dispatcher. The radio dispatchers then forwarded the IBM cards or piece of paper to another position where the information was transferred to a ledger and the IBM cards or piece of paper destroyed.

- c. In 1963, there were 80 radio patrol cars in use with 26 in service at any given time. During the writer's recent visit to the Bogota Communications Center (Station 100), the National Police were found to have only 35 radio patrol cars on the street. Since 1963, the population of Bogota has more than doubled from approximately 1,250,000 to 2,900,000. Telephone instruments for the population to summon police assistance has nearly tripled from approximately 112,000 to 316,000.
- d. The number of mobile radio transceivers (over 200) currently available to the police in Bogota would be sufficient were they to operate their radio patrol car system as we do in the U. S. In Bogota, however, a radio patrol car is assigned to a driver and when the driver goes off duty so does the vehicle. This procedure, combined with the large number of vehicles deadlined compounds equipment utilization and patrol problems. Since the operating hours of a radio patrol car is one of the major factors in determining the efficiency of a mobile patrol, the current Bogota system would not receive very high marks.
- e. U.S.A.I.D. provided the National Police 70 VHF/FM mobile transceivers and several base stations for urban police operations outside of Bogota. These units were diverted for use in Bogota in 1966 and have been in operation ever since. The U. S. mobile transceivers did not compare favorably with foreign mobile equipment of much lower power. From observations, it was apparent that the installation of the U. S. provided base station at the Bogota Communications Center could not achieve the coverage that the foreign base station would located on a mountain

(Alto de Cable) overlooking Bogota. The dissatisfaction with the coverage offered by the U. S. mobile equipment was the subject of a briefing given the writer by the Chief of the Bogota Police activities. This problem was discussed with the National Police Communications Chief and corrective action recommended.

E. Rural Tactical Radio Network

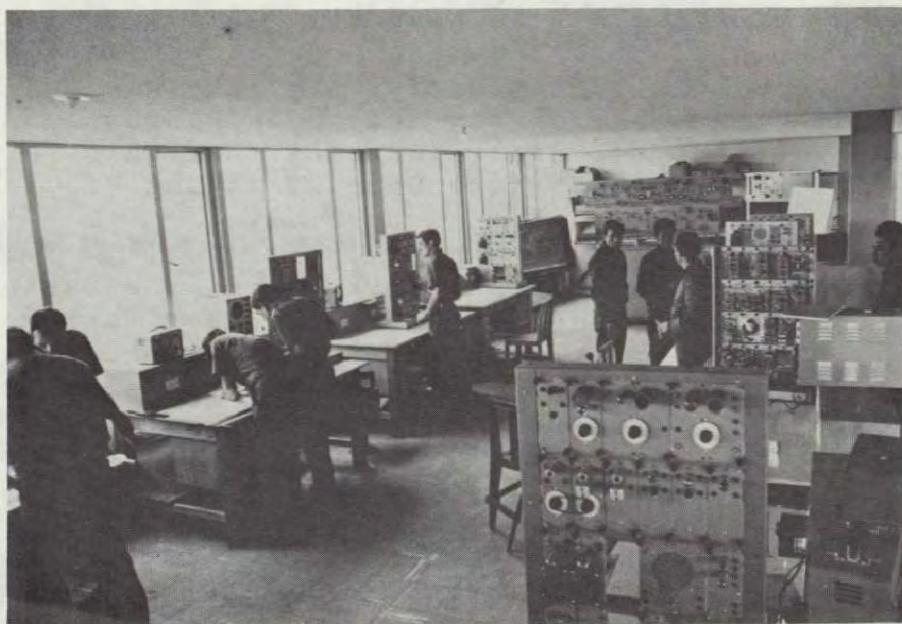
1. In 1963, the National Police had no rural communications capability, tactical communications equipment was non-existent and rural violence posed a serious threat to the GOC.
2. In the development of an extensive rural tactical radio network, the U. S. Government has provided the National Police 1,751 tactical transceivers. This includes 1,417 VHF/AM units, 207 VHF/FM units and 127 HF/SSB units. The majority of these tactical radios have been in operation for some seven years. It is doubtful that the National Police could have carried out their counter bandit operations as successfully as they did without this U.S. input. The tactical radios have also made a substantial contribution to rural police activities and, in some remote areas, provide the only means of communication for the GOC. Discussions with police officials indicate that this facet of the Public Safety Communications Project was one of the most successful.
3. In the Middle Magdalena area, the National Police are operating in a paramilitary fashion against bandit/guerrilla elements. At present, 14 patrol groups are involved and have recently been equipped with tactical transceivers. There are tentative plans to expand the number of patrol groups in this area and possibly start a similar police operation in the Department of Huila. Either expansion would require additional tactical communications equipment. The National Police should be encouraged to include in their

budget or obtain additional GOC funds to purchase any new tactical communications equipment required.

F. Training

1. In-country Training

It is believed that one of the most successful elements of the Public Safety Communications Project was that of training. The training programs sponsored by U.S.A.I.D. were varied and included most technical skills found in police communications activities (Annex F). U.S.A.I.D. has provided training aids and helped establish a training center within the National Police Communications Section which compares favorably with many electronics training schools in the U. S. The National Police will be able to continue this in-country training after U. S. assistance has been withdrawn. The school could be used for third country training for other Latin American countries.



Communications Section Training Center

The U.S.A.I.D. has sponsored six National Police officers to attend a five year electronics engineering course at a local university. One officer has graduated and others have the potential. However, U.S.A.I.D. has decided to terminate funding for this course (approximately \$6,700 per year) in FY 1974. This training activity should be supported for at least another year so that the remaining officers can graduate and provide the professionalism and depth that the National Police need.

2. Participant Training

- a. To date only three National Police personnel have received formal training in the U. S. as participants. One was the present Chief of the Communications Section who attended a six month radio technician course conducted in the Spanish language. Two other technicians, accompanied by the Public Safety Communications Advisor attended a six week teletypewriter repair course.
- b. Two types of participant training are believed necessary, that of telecommunications management and municipal police operations. Both of these were included in the 1963 survey recommendations. In the past 10 years, the National Police have been apparently unable to provide an English speaking officer to attend a telecommunications management course.

G. Maintenance

1. Field trips revealed that the National Police communications personnel were fully competent to maintain the equipment provided. Logistical support was found to be adequate but there is room for improvement such as an increased National Police budget for spare parts. This budget has not kept pace with material costs. The increase from 1.1 million pesos in 1963 for spare parts to approximately

two million pesos in 1973 has been offset by the foreign exchange rate of the peso.

2. U.S.A.I.D. has allocated \$5,000 U.S. for spare parts in the FY 1973 ProAg to support the communications equipment provided in prior years. This assistance no doubt contributed to the small amount of U.S. equipment found deadlined. U.S.A.I.D. has also provided funds for contract employees to assist the National Police Communications Section. A local contract for a logistics clerk and radio technician has been in effect for several years and \$8,000 U.S. has been included in the FY 1973 ProAg to extend these contract services. The National Police are believed to have developed sufficient expertise in these areas. In the event the National Police desires to retain the contract personnel they are able to hire them directly.
3. The maintenance accomplishments of the National Police are remarkable when one considers that out of 1,751 tactical transceivers (the majority provided in 1965 and 1967) only 51 units were found to be deadlined, less than 3% of the total number of rural tactical transceivers supplied (Annex G). The National Police communications maintenance capability can, therefore, be considered to be as good as or better than that of many major police departments in the United States.
4. Public Safety advisory efforts regarding reorganization, training and facilities have, to a great extent, been responsible for the National Police developing an adequate communications logistical support capability. Four regional maintenance centers and 13 Department repair shops with adequate U.S. provided tools and test equipment were established throughout the country. The new maintenance facility at the National Police Communications Section Headquarters in Bogota is pictured below.



New Maintenance Facility

H. Discussions with the National Police Regarding the Termination of the Communications Project

1. At a July 18 meeting with the National Police Planning Staff, strong representation was made by several senior police officials to retain the Public Safety Communications Advisor and continued U. S. commodity support. At the conclusion of this meeting, the writer informed the senior police officials that his findings indicated that many of the U. S. project goals had been reached. A National Police communications organization did exist, National Police personnel had been trained and that the time had come for the National Police to move forward on their own without full-time advisory assistance in communications.

2. One of the senior police officers, Col. Mario Castillo stated that both he and General Garcia felt that Colombia was in an extremely critical period and that advisory assistance should not be terminated abruptly. He further stated that his communications officers did not have the experience of the U. S. Advisor; that their training had been theoretical and that they lacked practical knowledge. He requested an overlap whereby our advisor would work directly with their recent electronics engineering graduate and the planning staff.
  
3. The request of the National Police to utilize the Public Safety Communications Advisor's services at the planning staff level is believed partly based on this writer's discussions. It was recognized that the ability of the communications advisor to work at this level would allow the advisor to make a greater contribution and correct many of the deficiencies outlined in this report. Long range planning for an improved National Police communications capability would not require an advisor for a full tour. In this regard, discussions with the National Police were held as to the amount of time required. At that time, the National Police were willing to settle for a six months extension of the Communications Advisor.
  
4. At a subsequent meeting with Brigadier General Henry Garcia Bohorquez, Director General of National Police, he expressed his concern that U. S. advisory assistance should not be terminated and stated that he would discuss the matter with his planning staff. Since the writer's return to Washington, General Garcia has written a letter (Annex C) to the Mission expressing his strong desire that the communications advisor and commodities not be terminated but be continued for another two years.

5. It will be difficult to overcome the demonstrated objections of senior National Police officers to the loss of continued U. S. assistance in communications. The question which arises is whether the National Police request for continued U. S. advisory assistance is predicated on using this as an avenue to obtain additional U. S. material assistance, or their expressed need for planning input.
6. The continuation of this project would be extremely difficult to justify on the basis of technical considerations alone. The National Police have developed an organization which, although not optimum, is capable of satisfactorily managing, operating and maintaining the communications equipment provided.
7. Although the incumbent Public Safety Communications Advisor is desired by senior officials of the National Police, on several occasions, communications systems planning and equipment selections were unilaterally decided upon and, in only one case, was it outside the advisor's sphere of influence. This would be the recent planning by the Ministry of Defense (MOD) to acquire, on a proprietary basis, a replacement multi-channel radio relay system for the Army and Police. Other unilateral examples include proprietary purchases of communications equipment by the National Police. In these instances, the National Police demonstrated that they can plan their own communications systems and have the capability to obtain funds for communications equipment they deem essential.

## ANNEX A

Translation from Spanish

CONTRACT N<sup>o</sup> 4717

PURPOSE: Rent of Telex Services Lines and Telephones

This contract is entered into between FRANCISCO LOZANO VALCARCEL, a Colombian citizen, residing in Bogota, with identity card N<sup>o</sup> 23835 of Bogota, acting as the representative of the TELECOMMUNICATIONS COMPANY ("Telecom") a public entity which is a part of the Minister of Communications appointed by the entity according to the rules and regulations set forth in Decree N<sup>o</sup> 1184 of 1969; and Brigadier General HENRY GARCIA BOHORQUEZ, also a Colombian citizen, with identity card N<sup>o</sup> 6072405 of Cali, as Director General of the National Police according to the terms described in Decree N<sup>o</sup> 2347 of 1971.

FIRST: TELEX SERVICES - TELECOM will provide to the National Police lines space in its locations in the following cities: BOGOTA, MEDELLIN, CALI, BUCARAMANGA, SANTA MARTA, VILLAVICENCIO, IBAQUE, CUCUTA, PASTO, TUNJA, and NEIVA.

SECOND: EQUIPMENT AND MACHINERY - The NATIONAL POLICE will use its own teletype machines, teletype connectors, and terminal equipment property in each of the listed above cities.

THIRD: ISOLATED LINES - The NATIONAL POLICE will request and obtain from the respective telephone companies in each city the necessary isolated lines in the telex and telephone centers of TELECOM and the offices of the NATIONAL POLICE where terminal equipment is operating. The NATIONAL POLICE will procure the necessary funding for the installation and monthly payment of the isolated lines.

FOURTH: MAINTENANCE, MACHINERY AND EQUIPMENT - The maintenance of the teletypes, teleconnectors and terminal equipment will be the responsibility of the NATIONAL POLICE.

FIFTH: TELEX FARE - The NATIONAL POLICE will pay to TELECOM the equivalent of 50% of the total value of the TELECOM fees for the services provided by TELECOM at the price established at the moment of rendering the service.

TELECOM has established for the NATIONAL POLICE this special half price, it being understood that the terminal equipment, as well as the teletype machines and teleconnectors, are property of the NATIONAL POLICE.

SIXTH: GUARANTEE DEPOSIT - For the reasons stated above and since the National Police will be responsible for maintenance the guarantee of installation expenses and deposit is not required.

SEVENTH: AUTOMATIC TELEPHONE - TELECOM will render a special automatic telephone service of long distance calls for the General Directorate of the National Police, which will be connected directly to the long distance Central Office of TELECOM. The NATIONAL POLICE will request and obtain from the local Telephone Company an isolated line necessary to communicate with the Central Telephone Company of TELECOM and the office of the NATIONAL POLICE where the telephone will be installed. The expenses incurred in the installation and monthly payments of the isolated line mentioned above will be paid by the NATIONAL POLICE.

EIGHTH: TELEPHONE TARIFF - The telephone service mentioned above will not have the discount established for the telex service; therefore, TELECOM will charge for the service in accordance with its regular fixed tariffs.

NINTH: DURATION OF THIS CONTRACT - This contract will be in effect for one year beginning November 1, 1972. This contract will be automatically renewed for a similar period of time as long as the parties do not terminate this contract in writing; in the contrary a written notice should be given within 30 days before its automatic renewal.

TENTH: Amount of THE CONTRACT - For legal purposes the contractors agree that the annual value of the present contract is in the amount of ONE HUNDRED THOUSAND PESOS (\$100.000.00). In case the final cost exceeds the total amount agreed to in this contract, the contractors will then agree to any additional cost by adding clauses to the present contract.

ELEVENTH: PAYMENT - The total payment of this contract will be effected upon previous obligation of funds by the Accounting, Control and Budget Department of the

National Police against the Program N<sup>o</sup> 202-Police Services, Chapter 191, Article 1975, "Communications Services" for fiscal year 1973. The bills for payment should be approved by the Division Chief of the Logistics Department and the Chief of the Administrative Services of the National Police.

TWELVETH: TERMINATION OF THE CONTRACT - Due to reasons of services TELECOM may terminate this contract in writing by giving not less than 90 days notice to the NATIONAL POLICE.

THIRTEENTH: REQUIREMENTS OF THE CONTRACT - Since the two contracting parties are official, accomplishment guarantees are not required. This document is written in regular paper and is exempted from official seals. This contract is signed in Bogota on January 26, 1972.

/s/  
TELECOMMUNICATIONS COMPANY  
FRANCISCO VARCARCEL, PRESIDENT

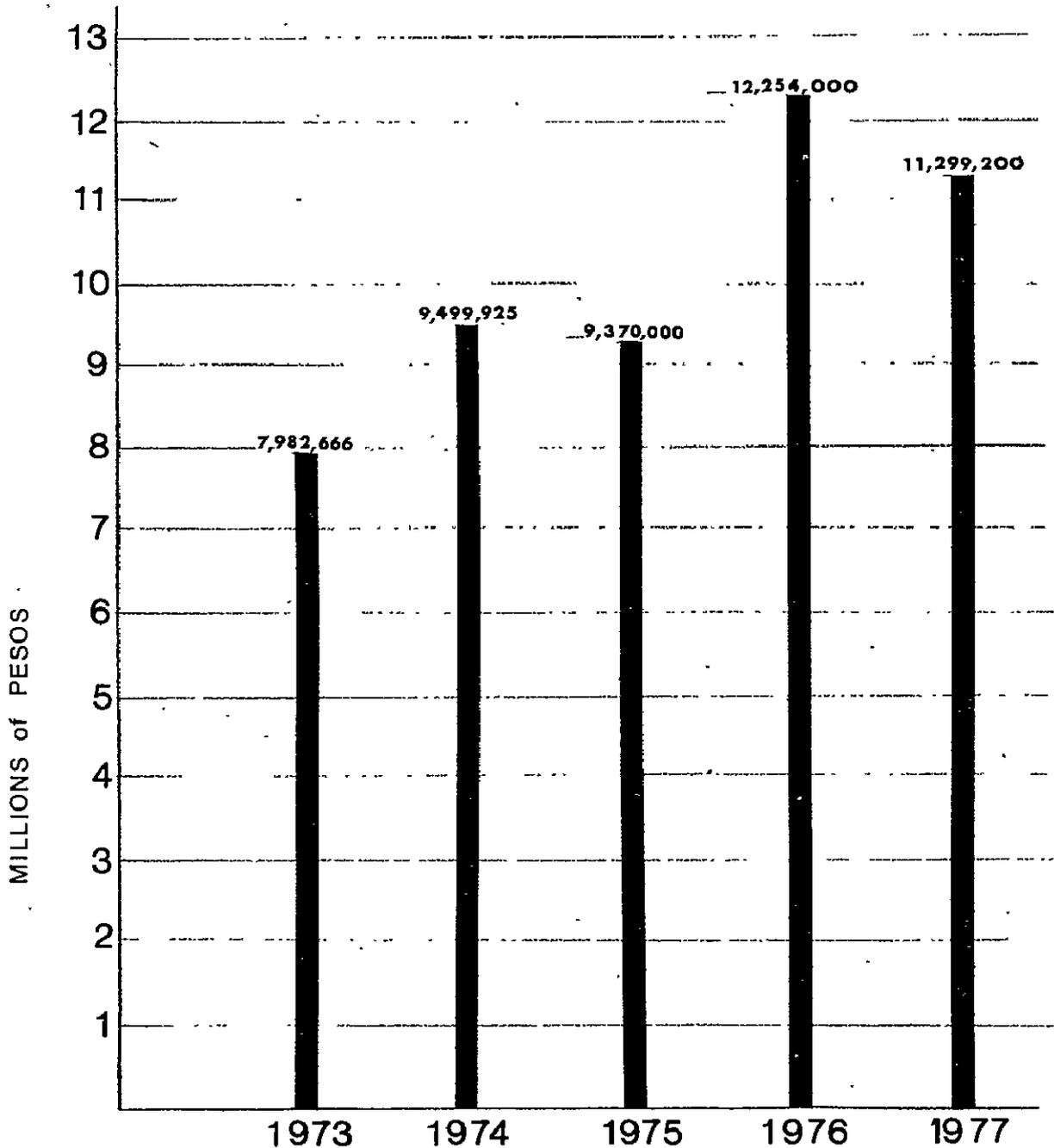
/s/  
NATIONAL POLICE  
BRIGADIER GENERAL HENRY GARCIA BOHORQUEZ  
DIRECTOR GENERAL/NATIONAL POLICE

Publication of this contract in the Official Diary was requested in the letter N<sup>o</sup> SCC-0387 of February 12, 1973. This contract was legalized in February 12, 1973.

# COLOMBIA NATIONAL POLICE PLAN

## RENEWAL OF COMMUNICATIONS EQUIPMENT COSTS

### 1973 TO 1977



TOTAL for FIVE YEARS ... \$50,405,791 (US\$ 2,191,556)

## COLOMBIA NATIONAL POLICE PLAN RENEWAL OF COMMUNICATIONS EQUIPMENT COSTS YEARLY BREAKDOWN

TRANSLATION FROM SPANISH

YEAR: 1973

EQUIPMENT DESCRIPTION	COST PESOS (U.S.\$)
Mobile Units UHF	1,950,000( 84,783)
Fixed Stations UHF	1,575,000( 68,478)
Portable Units UHF	2,467,000(107,261)
HF-SSB Fixed Station, 20 watt (CA-32)	380,000( 16,522)
HF-SSB Portable Units, (SBT-20)	620,000( 26,957)
AM Fixed Station, 20 watt (TR-20)	300,000( 13,043)
AM Portable Units, (HT-1)	184,000( 8,000)
Generators, 7 K.W.	280,000( 12,174)
Batteries, 12 Volt	30,000( 1,304)
Portable Generators, 1 K.W.	120,000( 5,217)
Battery Chargers, 12 Volt	16,666( 725)
AM Portables, 20 watt (TR-20)	60,000( 2,609)
TOTAL	7,982,666(347,073)

# COLOMBIA NATIONAL POLICE PLAN

## RENEWAL OF COMMUNICATIONS EQUIPMENT COSTS

### YEARLY BREAKDOWN

TRANSLATION FROM SPANISH

YEAR: 1974

EQUIPMENT DESCRIPTION	COST	
	PESOS	(U.S.\$)
AM Portable Units (HT-1)	92,000	( 4,000)
Microwave Transmitters	420,000	( 18,261)
Microwave Receivers	420,000	( 18,261)
Transmitters-Fixed (HA-21)	540,000	( 23,478)
Receivers-Fixed (HA-21)	540,000	( 23,478)
Canales (Unable to Identify)	2,184,000	( 94,956)
HF-SSB Transceivers, 100 watt (CA-27)	1,035,000	( 45,000)
Teletype Equipment (28 ASR)	1,035,000	( 45,000)
Receivers (CR-17)	270,000	( 11,739)
Linear Amplifiers, 1 K.W. (CL-9)	460,000	( 20,000)
Multiplex Transmit Equipment	241,500	( 10,500)
Multiplex Receiving Equipment	241,500	( 10,500)
Compressor Amplifiers (CS-12)	120,750	( 5,250)
AM Portable Units (TR-5)	80,500	( 3,500)
AM Portable Units (TR-20)	103,500	( 4,500)
HF-SSB Transceivers, 20 watt (CA-32)	828,000	( 36,000)
Multiplexing Equipment	24,000	( 1,043)
Replacement Parts	864,175	( 37,573)
TOTAL	9,499,925	(413,039)



# COLOMBIA NATIONAL POLICE PLAN

## RENEWAL OF COMMUNICATIONS EQUIPMENT COSTS

### YEARLY BREAKDOWN

TRANSLATION FROM SPANISH

YEAR: 1976

EQUIPMENT DESCRIPTION	COST	
	PESOS	(U.S.\$)
AM Portable Units (HT-1)	920,000	( 40,000)
Transmitters-Fixed (HA-21)	2,700,000	(117,391)
Receivers-Fixed (HA-21)	2,700,000	(117,391)
Canales (unable to identify)	1,416,000	( 61,565)
AM Portable Units (TR-5)	402,500	( 17,500)
AM Portable Units (TR-20)	519,500	( 22,587)
HF-SSB Transceivers, 20 watt (CA-32)	1,380,000	( 60,000)
Single Channel Transmitters	504,000	( 21,913)
Single Channel Receivers	504,000	( 21,913)
Multiplexing Equipment	94,000	( 4,087)
Replacement Parts	1,114,000	( 48,435)
TOTAL	12,254,000	(532,783)

# COLOMBIA NATIONAL POLICE PLAN RENEWAL OF COMMUNICATIONS EQUIPMENT COSTS YEARLY BREAKDOWN

TRANSLATION FROM SPANISH

YEAR: 1977

EQUIPMENT DESCRIPTION	COST	
	PESOS	(U.S.\$)
AM Portable Units (HT-1)	920,000	( 40,000)
Transmitters-Fixed (HA-21)	2,700,000	(117,391)
Receivers-Fixed (HA-21)	2,700,000	(117,391)
Canales (unable to identify)	1,536,000	( 66,783)
AM Portable Units (TR-5)	80,500	( 3,500)
AM Portable Units (TR-20)	103,500	( 4,500)
HF-SSB Transceivers, 20 watt (CA-32)	828,000	( 36,000)
Single Channel Transmitters	648,000	( 28,174)
Single Channel Receivers	648,000	( 28,174)
Multiplexing Equipment	108,000	( 4,696)
Replacement Parts	1,027,200	( 44,661)
TOTAL	11,299,200	(491,270)

## ANNEX C

TRANSLATION OF LETTER N<sup>o</sup> 2815/A  
dated July 18, 1973

SUBJECT: TERMINATION OF COMMUNICATIONS PROGRAM

TO: Mr. William W. Winn, Acting Chief, Public Safety  
Division, U.S. Embassy, Bogota

Dear Mr. Winn:

We have been advised that a member of your Washington Staff plans to terminate the Communications Program. This Institution objects to this move for several reasons:

1. The National Police are in need of advisory services in the field of communications at the level of the Estado Mayor de Planeacion for systems planning.
2. Although we are contemplating the procurement of loan money to purchase urban communications equipment in the sum of \$ 1.5 million dollars, this money has been made available to us only due to the urgency of the security situation concerning the coming elections. Also, if this purchase is to be finalized, we would need the services of your technician to assist us in the operational field.
3. The provisions of Paragraph 4. d. of the PRO/AG for fiscal year 73 will not be carried out if the program is terminated. We consider this to be a valid and binding document in which this institution has agreed to complete certain actions as you have agreed to do likewise. The national net is nearing its completion and will consist of the equipping of at least nine additional departments with teletype printers in conjunction with our planned contract expansion with Telecom and including the computer program.
4. Your technician has proven to be of valuable assistance to us and as we have previously discussed we were planning to utilize his skills at a higher level in the coming two years to assist this institution towards long-range planning.

5. Lastly, we question the motives of such an immediate termination of the program, after such a long period of time and for the reasons stated by Mr. Katz. We would like to know if there are other motives for this immediate departure.

I would appreciate it, if you would forward my desires and the desires of this Institution to Mr. Goin concerning this problem area. When I travel to Washington in August, I will make this a matter of discussion with those responsible officials of the Department of State and White House.

Signed: Brigadier General HENRY GARCIA BOHORQUEZ  
Director General, National Police

Paul Katz, Chief  
Telecommunications Branch, OPS/TSD

May 29, 1967

Mark R. Seaton  
Public Safety Communications Advisor/Colombia

#### Colombian Common-User Communications Network

The country of Colombia is presently divided politically into 21 departments or "States" that contain approximately 80% of the total country population and all of the major industrial and commercial centers. Each department has a major city as its capital and 13 of these cities have over 100,000 population each.

In addition, there are 9 National Territories, primarily in the plains and jungle area, that are sparsely populated but important agriculturally.

The Colombian Ministry of Government (MOG) received a SSB radio network under an AID Civic Action project in 1963, which provides them with voice communications from the MOG, Department of National Territories, to the capitol cities of 8 territories, and from each of these capitols to other major population centers within the territory. This project was jointly financed by AID and GOC, each contributing \$132,000, and was installed under the auspices of the American Military Mission.

The National Police, under the Ministry of Defense, also have a SSB radio network procured from GOC funds which provides them with voice communications to these same 8 territories plus 3 state capitols. Police communications to the remaining 18 states is provided by an antiquated VHF-relay system which has been found to be less than 25% operational at any given time. This system, costing "several millions" of dollars, was jointly financed by the National Police and the Colombian Army, and is jointly operated and maintained by these two agencies, although the Army is by far the main beneficiary of the system. A major portion of National Police communications operations funds are expended on maintenance of this system but services realized are relatively small. For this reason, a major Public Safety project objective is to divorce the police from this system and replace the service with HF-SSB radio-teletype circuits.

The Department of Administrative Security (OAS), which is included with the National Police in the basic AID/Public Safety Program Agreement, has a GOC-funded radio-telegraph

system which provides them with message service from Bogota to the 21 state capitols and other field offices. This system is also old and in poor state of repair.

The Customs Service, under the Ministry of Finance, has no radio communications system of their own but is planning such a facility with 300,000 "coffee dollars" recently provided by the GOC. This system would provide radio-teletype service from Bogota to major ports of entry throughout the country, 75% of which are located in the 21 states.

In mid-1963, a Public Safety communications survey was conducted by OPS/W which provided the basis for the subsequent commodity and technical assistance. It was during this survey that the OPS technician brought to light the duplication of circuits between Bogota and the 8 territories, i.e., the National Police and MOG SSB radio networks, and the National Police and DAS. Recommendations were subsequently made by the OPS technician to avoid this duplication of circuits by establishing a "common user" concept, whereby all interested agencies would share the services provided by the MOG radio network. AID, in turn, would increase the traffic handling capabilities of the Minister of Government circuits by the addition of teletype and multiplex equipment.

On June 25, 1963, a meeting was held in the Ministry of Government to discuss the "common-user" concept. Representatives of MOG, Ministry of Defense, Ministry of Finance, Ministry of Communications, National Police, DAS, American Military Mission, and AID Public Safety were present. The committee arrived at certain basic conclusions as follows:

1. That the National Territories have the radio network through the MOG.
2. That all official organizations and entities could utilize the service of this network.
3. That it is necessary to improve and amplify this network.
4. That it is necessary to arrive at an agreement between MOG, the Police and DAS in regard to the use and maintenance of this network.

5. That a committee should be appointed to study this matter and prepare appropriate regulations.

During the meeting two very pertinent points were made and discussed that set the pattern for later events:

1. Dr. Fidel Cano Jaramillo, Chief of the MOG National Territories Division, stated that "the principal objective of the radio network of the National Territories is to provide administration for them since (they) are responsible to the MOG." 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 had been his opinion since the beginning.
2. Mr. John Doney, AID Public Safety, stated that "in case the MOG did not accept the integration of this network with these installations then they would be installed separately in offices of the Police and DAS."

Basically, no further progress has been made on the "common-user" concept and the Coordination Committee has never convened. A new communications center was established in MOG/Bogota and teletype circuits extended to the Police, DAS, and Customs. However, these agencies are not utilizing the service for the following reasons:

1. The negative attitude taken by the MOG Chief of National Territories has prevailed and little or no priority is given to messages of other agencies.
2. The vast majority of total traffic from these other agencies is to the 21 states that are not serviced by the MOG network. Consequently, they were quick to take an indifferent attitude when the first problems arose in the use of the MOG net.
3. Although these law enforcement agencies might cooperate on a "common-user" administrative communications system between themselves, it is extremely doubtful if they will ever effectively utilize a civil communications system which is not under their control.

At the time of the arrival of this advisor in Colombia in July 1966, the MOG Common-user Network was still considered an active project. Plans were being made to add the teletype and multiplex equipment to the net even though it was known that the Police, DAS and Customs were not utilizing the system. It was later determined by this advisor that the phrase "common-user communications system" had been extremely exaggerated in the minds of the AID Mission executive personnel to the point where they envisioned our total effort, including the tactical radio network, going into some type of grandiose system that would resolve everyone's communications problems. No documentation subsequent to the July 1963 survey could be found that clearly outlined the concept and those progress reports that were made reflected only installation status and not operational status from a cooperative basis.

Various discussions were held between this advisor and the Chief Public Safety Advisor during which it was decided that the teletype and multiplex would not be added to the MOG on a "loan basis" as proposed by the previous communications advisor (if they don't provide service to the security agencies we take back the teletype equipment), but instead we should install the new equipment directly into the Police and DAS nets where it could be more effectively utilized. A detailed study of this proposal was conducted and a new concept evolved for the use of the teletype and multiplex equipment. It was subsequently approved by the National Police and became part of the applicable 1967 ProAg. Pertinent points are as follows:

1. A new communications center would be established for the Police in Bogota to contain both their present HF-SSB and VHF-relay networks.
2. High-power radio equipment would be procured by AID to be used with existing teletype and multiplex gear in establishing a reliable 24 hr/day circuit from Bogota to a region relay site on the northern coast. Branch circuits from the region relay would provide vital communications to the major coastal state capitols of Barranquilla, Cartagena, Santa Marta and Rio Hacha. Adequate Police communications does not presently exist to these locations and the MOG net services only Rio Hacha.

3. Linear amplifiers would be procured by AID to increase the power output of Police SSB transmitters presently in use in 3 other state capitols, and "CAI" receivers procured by AID some time ago would be added to accommodate the teletype and multiplex equipment.
4. Four "CAI" transmitters and receivers previously procured by AID would be used with new linear amplifiers in four other state capitols where the present VHF-relay system does not provide adequate service.
5. Once this system was installed, services would be extended to DAS.
6. Excess teletype equipment resulting from these installations could then be transferred into the MOG net and the two communications centers tied together under a "you scratch my back, I'll scratch yours" agreement. The Police would have control of the State net which would account for 80% of their traffic, the MOG would have control over the Territory net which would account for 80% of their traffic, each having access to the other.

It is felt that this concept not only will resolve the problem of establishing a common-user network, but will place the teletype and multiplex equipment, that has laid idle in Bogota for some 20 months into the hands of the Police as quickly as possible and will provide them with vitally needed communications services. In late 1966, several teletype machines were assembled and tested with the multiplex equipment. After resolution of various problems, a successful test was conducted between Bogota and Villavicencio on the Police SSB net. Lastly, it will be a giant step toward the major objective of divorcing the Police from the costly Ministry of Defense VHF-relay system.

July 18, 1973

~~LIMITED OFFICIAL USE~~

## ANNEX E

-50-

Mark R. Seaton  
Public Safety Communications Advisor/Colombia

Throughout the past two years there had been rumors circulating within the National Police Communications Section that the Ministry of Defense (MOD) was planning to procure a new country-wide multi-channel radio communications system for the Colombian Army that would replace the 17-year old "Autophone" system presently being shared by the Army and the National Police. In mid-1972, these rumors grew stronger and more reliable.

Col. Harry Lowmann, Embassy DAO, reported to me in early July that President Pastrana had mentioned to him at a luncheon in Cali that he had just authorized expenditure of US\$5 million for a "combined forces" communications network. At that time, I was unable to confirm this through any technical-level source of the armed forces or the NP; however, I continued to probe for additional information re the exact nature of the new system and what, if any, service it would provide to the National Police. I was consistently advised by the planning staff of the NP that the system under consideration was in its early planning stages and was highly secret. Also, that in any event, the system would be strictly a command level network for the MOD, and that the only service contemplated for the National Police was command coordination links with NP Departmental Commanders. As a result, we (PSD and NP Communications Section) continued technical planning for expansion and improvement of the NP country-wide radio-teletype network -- the primary PSD/NP activity target at this time.

In August, 1972, I was contacted by Mr. Ray Omara, a local businessman representing RCA in Bogota. Mr. Omara provided me with confidential first-hand information regarding the current MOD planning for procurement of this new radio system, including the fact that a contract of US\$5 million was being given to Siemens on a proprietary basis, with Autophone included as a "sub-contractor." This information was provided to the CPSA, who in turn passed it to the Embassy and discussed it with the DGNP. The DGNP continued to insist that the new system was a command-level MOD network that would not provide the NP with needed

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internal communications service. The Ambassador directed the MilGroup to investigate the procurement, and the Commercial Attache wrote to the Minister of Defense on 21 August suggesting that U. S. suppliers be given an opportunity to bid.

Shortly thereafter, Capt. Jerry Broome, Signal Advisor, US MilGroup, visited my office and we exchanged information re the MOD procurement. Capt. Broome had little, if anything, more knowledge of the procurement than we; however, it was his opinion also that the system was essentially military and would provide limited service to the National Police.

On September 8, 1972, the Minister of Defense responded to the Commercial Attache's letter stating that the plans for this procurement had already been finalized, but that the armed forces would be instructed to consider U.S. suppliers in future procurements.

Throughout the period September - November 1972, this advisor continued to probe for additional technical information re the subject procurement, but was consistently advised that the plans were highly secret. My counterpart, NP Communications Chief, did provide me with general data that continued to confirm that the network was essentially military and overwhelmingly Army (21 terminals all located in Army facilities with land line connections to NP departmental headquarters in only 7 locations).

As a result, we cautiously continued planning at the technical level for improvement of an NP country-wide communications service that would complement, but not duplicate, the MOD system from the NP standpoint.

Two approaches were being explored. First, the feasibility of procuring a UHF multi-channel backbone system with a minimum number of mountain-top relay sites, and VHF radio drops to NP departmental headquarters. The existing teletype terminals from the AID-provided SSB network could be utilized, together with certain VHF radio equipment currently on hand. The entire system could be designed to provide the NP with required independent communications data circuits and, at the same time, be capable of integration into the MOD network to enhance the NP service when and if that system became a reality.

Secondly, a series of meetings were held with Telecom beginning in March, 1972, to determine the feasibility of utilizing their recently completed direct-dial telegraph circuits as the "backbone" of an NP country-wide radio-teletype network with NP-owned terminal equipment. This approach had been long proposed by PSD but resisted by the NP on the contention that it was necessary for the NP to have complete control of their communications systems. Also, prior to completion of the new Telecom direct-dial system in early 1972, the advantage of such an arrangement were considerably less. In view of this attitude on the part of the NP, the early PSD approach was necessarily subtle. We encouraged the arrangement with Telecom on the basis of a backup to the SSB radio-teletype system, with hopes that it would later be accepted as their primary system. When these meetings failed to produce positive results by August-September, 1972, and the MOD planning became common knowledge, we began to place more emphasis on the UHF multi-channel approach.

In late November, 1972, the CPSA met with the DGNP and directly requested detailed technical information re the proposed MOD communications network in order that the PSD communications input to the FY-1973 ProAg might be finalized. The DGNP stated that the NP Communications Chief should properly provide us with this information and that, if he did not have sufficient data, he would be instructed to obtain same from MOD counterparts. The NP Communications Chief subsequently solicited this data from the MOD on a personal basis. The apparent result, perhaps coincidentally, was an immediate session of the MOD technical committee composed of the communications chief of each armed service, including the NP, and chaired by the MOD Communications Officer (Army). The committee held its first meeting on the subject the following day to "study the communications needs of the four services."

Subsequent meetings of the committee and feed-back from the NP representative continued to indicate that separate planning would be necessary to ensure that the NP would ultimately have an effective country-wide data communications system.

On February 12, 1973, the NP consummated a contract with Telecom to provide "backup" teletype circuits to the eleven departmental headquarters presently serviced by the AID-provided SSB radio-teletype network. The NP were to provide terminal equipment and land lines between NP and Telecom facilities.

Although the "Telecom approach" was now developing, it was still a backup service and planning continued on a technical level for a possible UHF multi-channel system. (See Gormont Report, dated 14 May 1973.)

During the week of 18 June 1973, the MOD issued a decree that all future plans for communications procurements by the four services would be submitted to the technical committee for "compatibility study." At this point, it became obvious that plans for an independent NP UHF radio-teletype communications system would not be approved, regardless of compatibility. Several meetings followed between PSD, NP, and Telecom technical personnel, and the "Telecom approach" was quickly accepted as the logical plan under existing circumstances for presentation to NP and AID planning staff.

On June 23, 1973, the first circuit was established between NP and departmental headquarters in Villavicencio and the NP Communications Center in Bogota utilizing Telecom radio circuits and borrowed interface terminal equipment. Other such installations are in progress.

FORMAL TRAINING COURSES CONDUCTED FOR  
NATIONAL POLICE COMMUNICATIONS PERSONNEL

1964 - 1973

<u>Total Students</u>	<u>Location of Instruction</u>	<u>Type of Course</u>	<u>Duration</u>
<u>COLOMBIA</u>			
44	NP Comm. Training Center	Radio Teletype Operator	1 month
26	NP Comm. Training Center	Radio Teletype Operator	6 weeks
106	NP Comm. Training Center	Basic Radio	1 year (continuous)
6	Ministry of Communications	Teletype Maintenance	6 months
8	TELECOM (Local Telephone Co.)	Teletype Maintenance	4 months
4	TELECOM (Local Telephone Co.)	Advanced Technician	3 years (in process)
6	University of Javeriana	Electronic Engineering	5 years (in process)
2	University of Javeriana	Tape Recording	2 months
4	University of Javeriana	Instruments Repair	2 months
5	University of Javeriana	Repair of CAI and Motorola Equipment	2 months
2	University of Javeriana	Radio TTY Systems	6 months
5	University of Javeriana	Model 28 TTY Maintenance	2 months
3	SENA (Vocational School)	Power Plant Repair	6 months

ANNEX F

(CONTINUED)

<u>Total Students</u>	<u>Location on Instruction</u>	<u>Type of Course</u>	<u>Duration</u>
<u>(COLOMBIA, cont'd)</u>			
4	SENA (Vocational School)	Electric Generator and Transformer Rewinding	6 months
63	SENA (Vocational School)	Basic Radio	1 year
2	Centro Colombo Americano	English Language	* 2 years
2	Centro Colombo Americano	English Language	* 1 year
10	Centro Colombo Americano	English Language	* 6 months
14	Bogota	Motorola Company sponsored 2-way FM Radio Repair	2 weeks
<u>U.S.A.</u>			
2	Chicago	Model 28 ASR Teletype	6 weeks
3	Los Angeles	Stoner Company sponsored Repair Course	6 weeks
1	Washington, D.C.	Advanced Technician Course	6 months
<u>PANAMA</u>			
1	Panama	Logistics Administration	4 months
5	Panama	General Supply	3 months
<u>SWITZERLAND</u>			
3	Switzerland	Autophone Company Sponsored Repair Course	<u>2 months</u>
* - Not included in total		TOTAL	210 man years

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COLOMBIA NATIONAL POLICE COMMUNICATIONS EQUIPMENT

DESCRIPTION	MANUFACTURE AND MODEL	IN SERVICE DATE	USAID PROVIDED	EQUIPMENT STATUS						TOTAL
				INSTALLED	OTHER					
					REPAIR SHOP	WAREHOUSE	DEAD LINE	AWAITING DISPOSAL		
VHF portable	Hallicrafters FM-5	1967 1973	Yes	57	3	0	0	0	60	
HF-SSB 20 watt transceiver	Hallicrafters SBT-20	1967 1965	Yes	52	20	0	8	0	80	
VHF-AM-LB transceiver	Hallicrafters TR-20	1967	Yes	154	30	0	21	0	205	
VHF-AM-LB transceiver	Hallicrafters TR-5	1967	Yes	60	17	0	8	0	85	
VHF-AM-LB portable	Hallicrafters HT-1	1967	Yes	1035	60	21	2	0	1118	
VHF-AM-LB/air to ground portable	Hallicrafters HT-2	1973	Yes	9	0	0	0	0	9	
Teletype	Tele. Corp. 28-ASR	1966	Yes	16	0	0	0	0	16	
HF-SSB 1 KW transmitter	Tech. Mat. Corp. TMC-750	1967	Yes	2	0	0	0	0	2	
HF-SSB receiver	CAI CR-1A	1967	Yes	10	0	0	0	0	10	
HF-SSB receiver	CAI CR-17	1971	Yes	7	0	0	0	0	7	
HF-SSB 100 watt transceiver	CAI CA-27B	1971	Yes	6	0	0	0	0	6	
HF-SSB 100 watt transmitter	CAI CT-50	1967	Yes	4	0	0	0	0	4	
Audio line amp.	CAI CN-1A	1972	Yes	6	0	0	0	0	6	
Compression amp.	CAI CS-12	1968	Yes	2	0	0	0	0	2	
Audio line amp. w/speaker	CAI CN-2G	1968	Yes	2	0	0	0	0	2	

COLOMBIA NATIONAL POLICE COMMUNICATIONS EQUIPMENT

DESCRIPTION	MANUFACTURE AND MODEL	IN SERVICE DATE	USAID PROVIDED	EQUIPMENT STATUS					TOTAL
				INSTALLED	REPAIR SHOP	WAREHOUSE	OTHER		
							DEAD LINE	AWAITING DISPOSAL	
VHF portable 4 channel	Autophone SE-182B	1962	No	42	20	0	10	0	72
VHF repeater	Autophone SE-18 HA2	1961	No	18	4	0	8	0	30
UHF mobile	Autophone SE-27	1972	No	150	0	0	0	0	150
UHF repeater	Autophone SE-27	1972	No	16	0	0	0	0	16
UHF base	Autophone SE-27	1972	No	30	0	0	0	0	30
UHF portable	Autophone SE-19 C75	1972	No	0	0	25	0	0	25
VHF-LB portable	Autophone SE-812	1957	No	6	30	0	34	10	80
VHF-LB portable	Autophone SE-813	1962	No	10	10	0	20	6	46
VHF mobile	Motorola Motrac	1966	Yes	25	5	0	10	0	40
VHF base	Motorola Mocom 30	1970	Yes	49	5	0	5	0	59
VHF portable	Motorola FM-1	1965	Yes	80	12	0	10	0	102
VHF portable	Motorola FM-5	1965	Yes	9	10	0	1	0	20
VHF mobile	General Electric	1966	Yes	60	10	0	0	0	70
VHF portable	Hallicrafters FM-1	1967	Yes	14	10	0	1	0	25

## COLOMBIA NATIONAL POLICE COMMUNICATIONS EQUIPMENT

DESCRIPTION	MANUFACTURE AND MODEL	IN SERVICE DATE	USAID PROVIDED	EQUIPMENT STATUS						TOTAL
				INSTALLED	REPAIR SHOP	WAREHOUSE	OTHER			
							DEAD LINE	AWAITING DESPOSAL		
HF-SSB 100 watt transceiver	Stoner SSB-100	1970	No	20	1	0	1	0	22	
HF-SSB 150 watt transceiver	Stoner SSB-150	1971	No	45	4	0	1	0	50	
HF-SSB 65 watt transceiver	Marconi HSR-21	1960	No	26	2	0	2	0	30	
HF-SSB 300 watt transmitter	Marconi HSR-22	1961	No	3	0	0	0	0	3	
RSO teletype	Lorenz	1950	No	29	10	1	2	0	42	
HF-SSB 20 watt transceiver	CAI CAI-28	1965	Yes	44	3	0	0		47	
UHF repeater	HA-15	1958	No	15	0	0	0	0	15	
5 Channel multiplex	TA-14	1958	No	11	0	3	0	0	14	
VHF mobile and fixed station	Autophone SE-64	1957	No	160	3	0	80	26	266	
VHF mobile	Autophone SE-26	1966	No	16	10	0	6	0	32	
UHF mobile and fixed station	Autophone SE-92	1962	No	13	10	0	37	0	60	
VHF repeater	Autophone SE-18 HBZ2	1961	No	25	5	0	3	0	33	
VHF repeater	Autophone SE-18 HFT2	1961	No	3	0	0	0	0	3	
VHF mobile	Autophone SE-18T	1969	No	34	5	0	11	0	50	
VHF portable 2 channel	Autophone SE-182A	1962	No	38	10	0	2	0	50	

# COLOMBIA NATIONAL POLICE COMMUNICATIONS EQUIPMENT

DESCRIPTION	MANUFACTURE AND MODEL	IN SERVICE DATE	USAID PROVIDED	EQUIPMENT STATUS						TOTAL
				INSTALLED	REPAIR SHOP	WAREHOUSE	OTHER			
							DEAD LINE	AWAITING DISPOSAL		
HF 1 KW Linear amp.	CAI CL-9	1967 1969	Yes	8	0	0	0	0	8	
HF-SSB Var. frequency receiver	Collins 51 S1	1967	Yes	3	0	0	0	0	3	
Electric generators	Various	1968 1971 1973		31	0	0	26	12	69	

# ANNEX H

## GLOSSARY

### Channel

A certain single portion of the radio spectrum assigned to a user of two-way communications.

### Circuit

A means of both-way communication between two points comprising associated "go" and "return" channels.

### Command Center

The complex of equipment and personnel from which all communication activity in a particular system is controlled.

### Control Console

A desk-mounted enclosed panel which contains a number of controls used to operate a radio station.

### Duplex Operation

A type of operation in which simultaneous two-way conversations, messages, or information may be passed between any two or more given points.

### High Frequency (HF)

Frequencies from 3-30 megahertz. Used for long distance communications.

### Mobile(Vehicle) Transceiver

A two-way radio station in the mobile service intended to be used while in motion or during halts at unspecified points.

### Modulation, Amplitude(AM)

The form of modulation in which the amplitude of the carrier is varied in accordance with the instantaneous value of the modulating signal.

### Modulation, Frequency (FM)

The form of modulation in which the instantaneous frequency of a sine wave is caused to depart from the carrier frequency by an amount proportional to the instantaneous value of the modulating signal.

### Multiplex

A multiplex system combining a number of voice channels for instantaneous transmission over a wide-band system.

### Portable Transceiver

A completely self-contained battery-operated radio which may be moved from one position to another.

### Radio Network

A number of radio stations fixed and/or mobile in a given geographical area which communicate with each other by sharing the same radio channels.

### Repeater

Used to increase mobile-to-mobile and mobile-to-base communications range and extend the range of a VHF or UHF radio system over greater distances and obstructions such as hills, building, etc.

### Simplex

That type of operation which permits the transmission of signals in either direction alternately.

### Single Sideband (SSB)

That method of communications in which the frequencies produced by the process of amplitude modulation on one side of the carrier are transmitted and those on the other side are suppressed. The carrier frequency may be either transmitted or suppressed.

### Teletypewriter

An electromechanical device, similar to a typewriter, wherein messages typed on the keyboard of the transmitter unit are converted into electrical signals. These signals are then conveyed to a receiver unit where they are transferred to print out on paper.

Transceiver

A transmitter and receiver with common circuits constructed in such a manner as to form one complete mobile, portable or base station.

Ultra High Frequency (UHF)

Frequencies from 300 to 3000 Megahertz, used for line-of-sight communications.

Very High Frequency (VHF)

Frequencies from 30 to 300 Megahertz, used for line-of-sight communications.

# COLOMBIA NATIONAL POLICE COUNTRYWIDE HF/SSB RADIO NETWORK

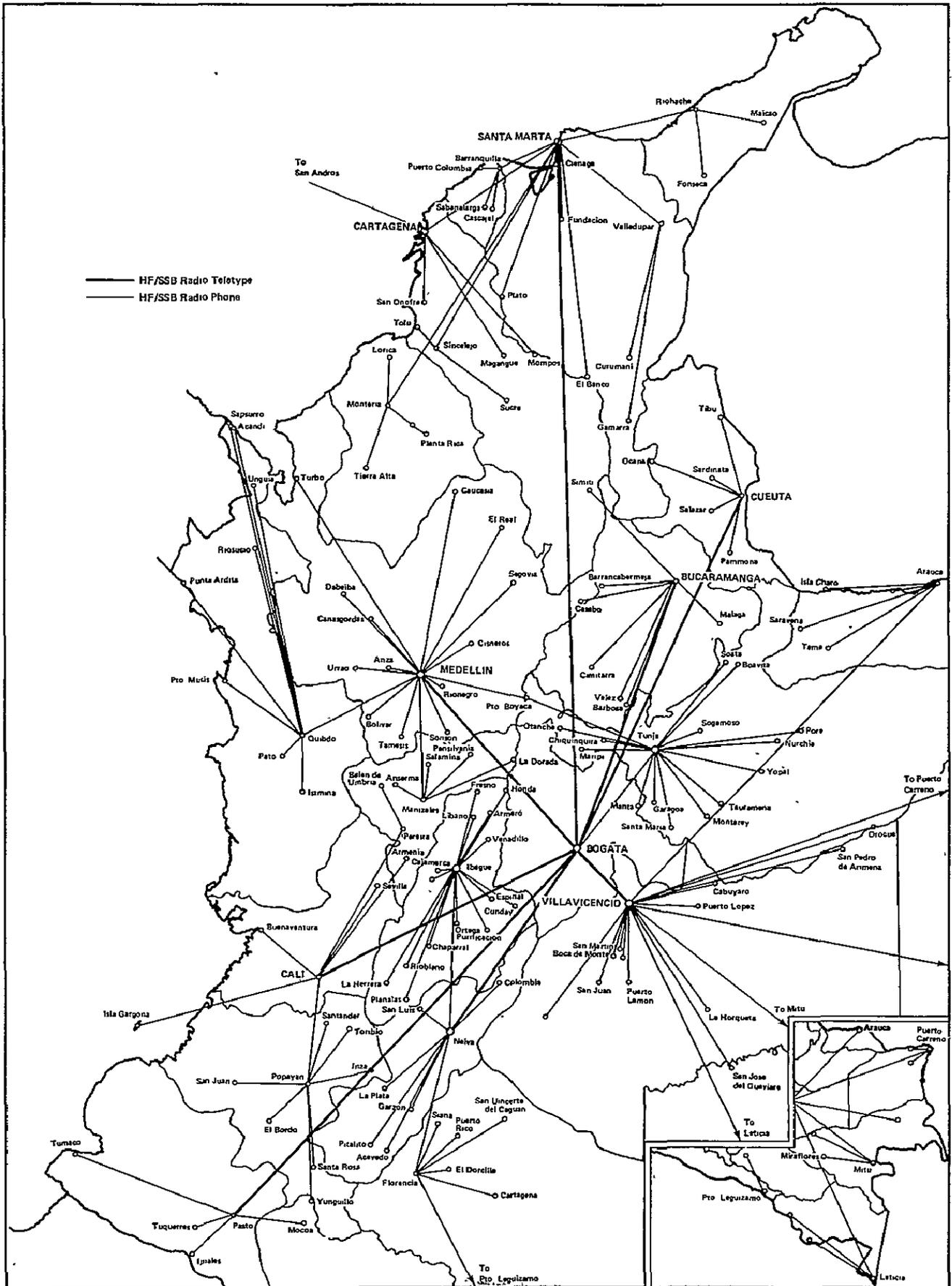
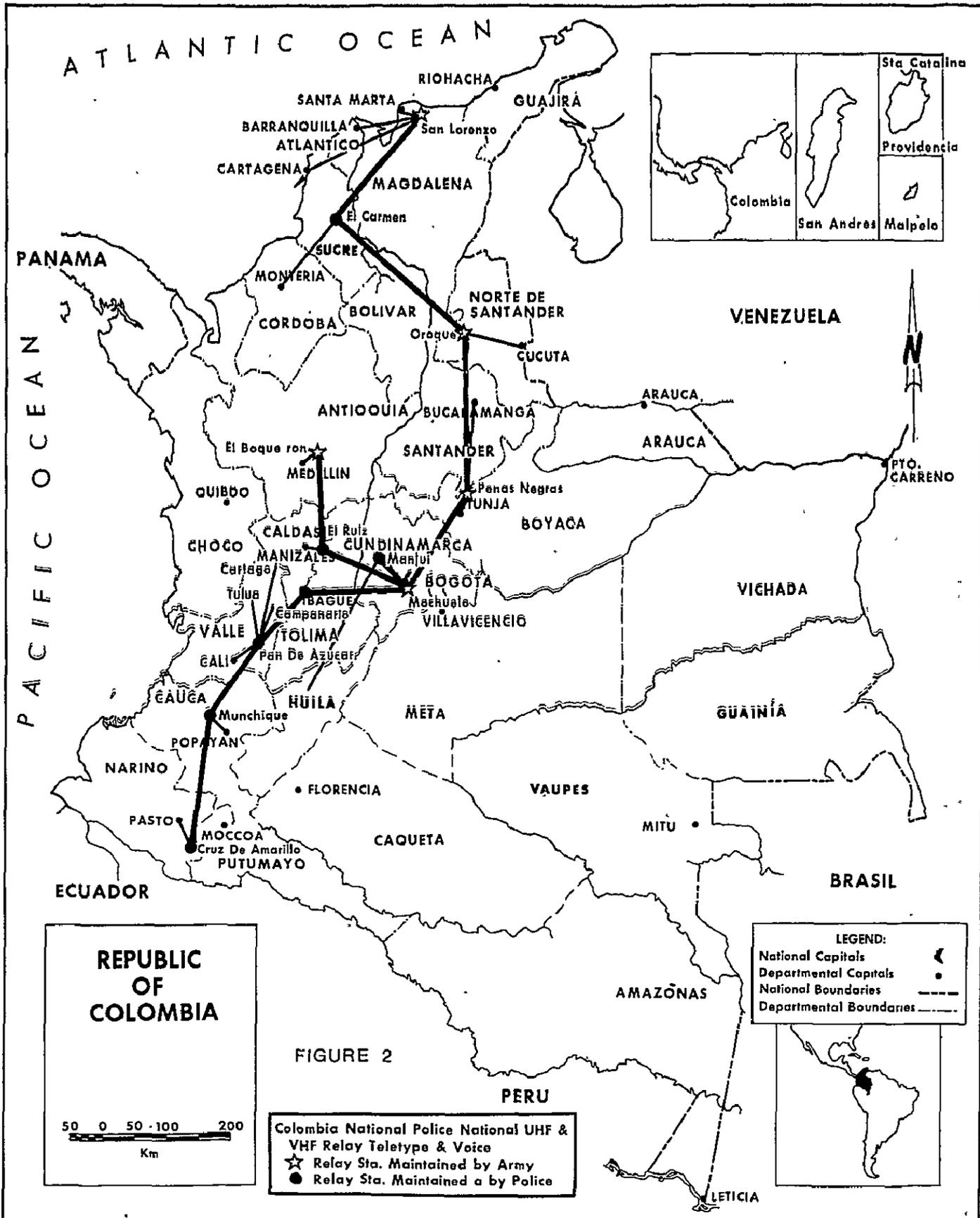
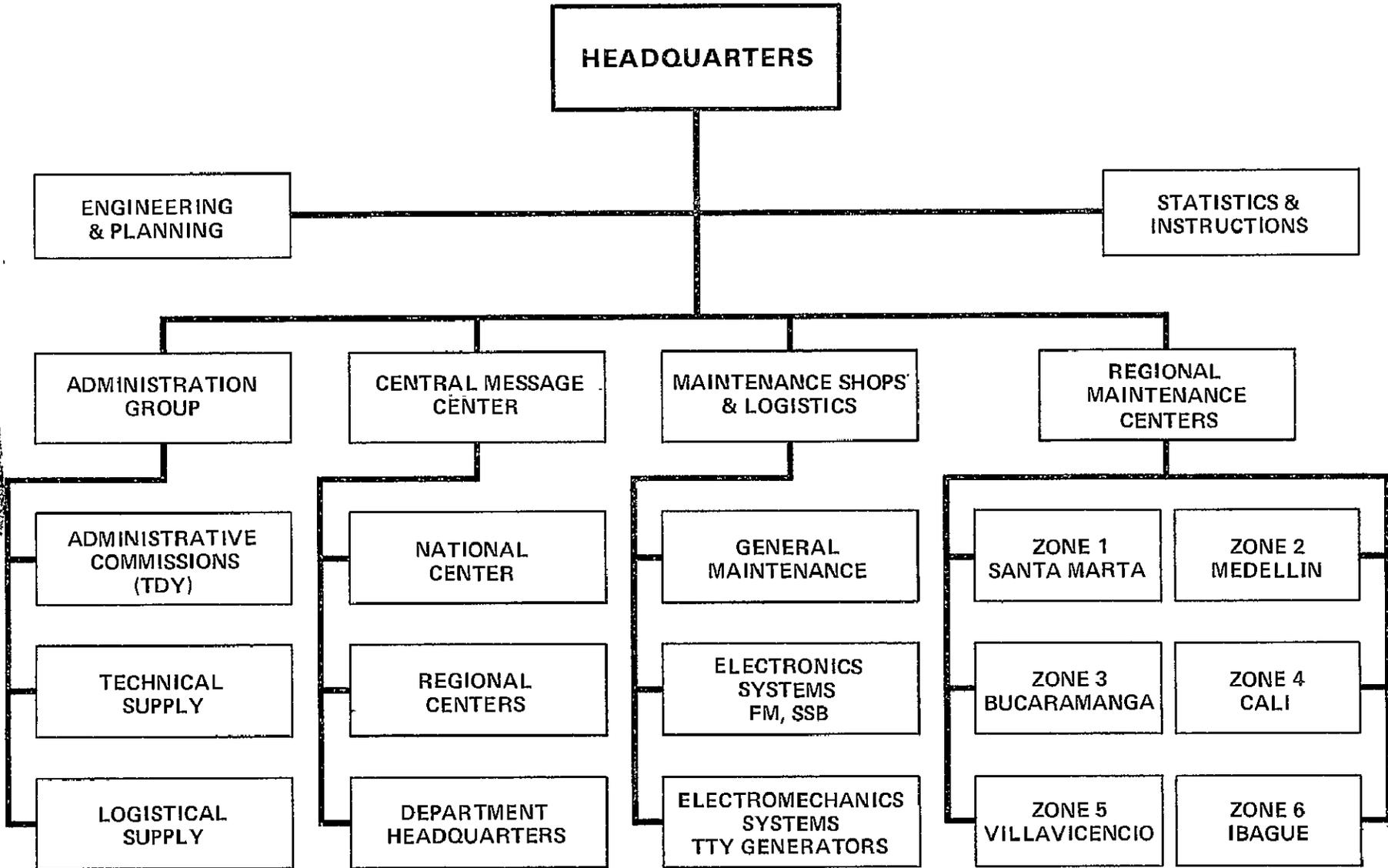


FIGURE 1 ~~LIMITED OFFICIAL USE~~



# ORGANIZATIONAL CHART OF COLOMBIA NATIONAL POLICE COMMUNICATIONS SECTION



JULY 1973

FIGURE 3

### BLOCK DIAGRAM OF THE COLOMBIA NATIONAL POLICE TELECOMMUNICATIONS RELAY SYSTEM

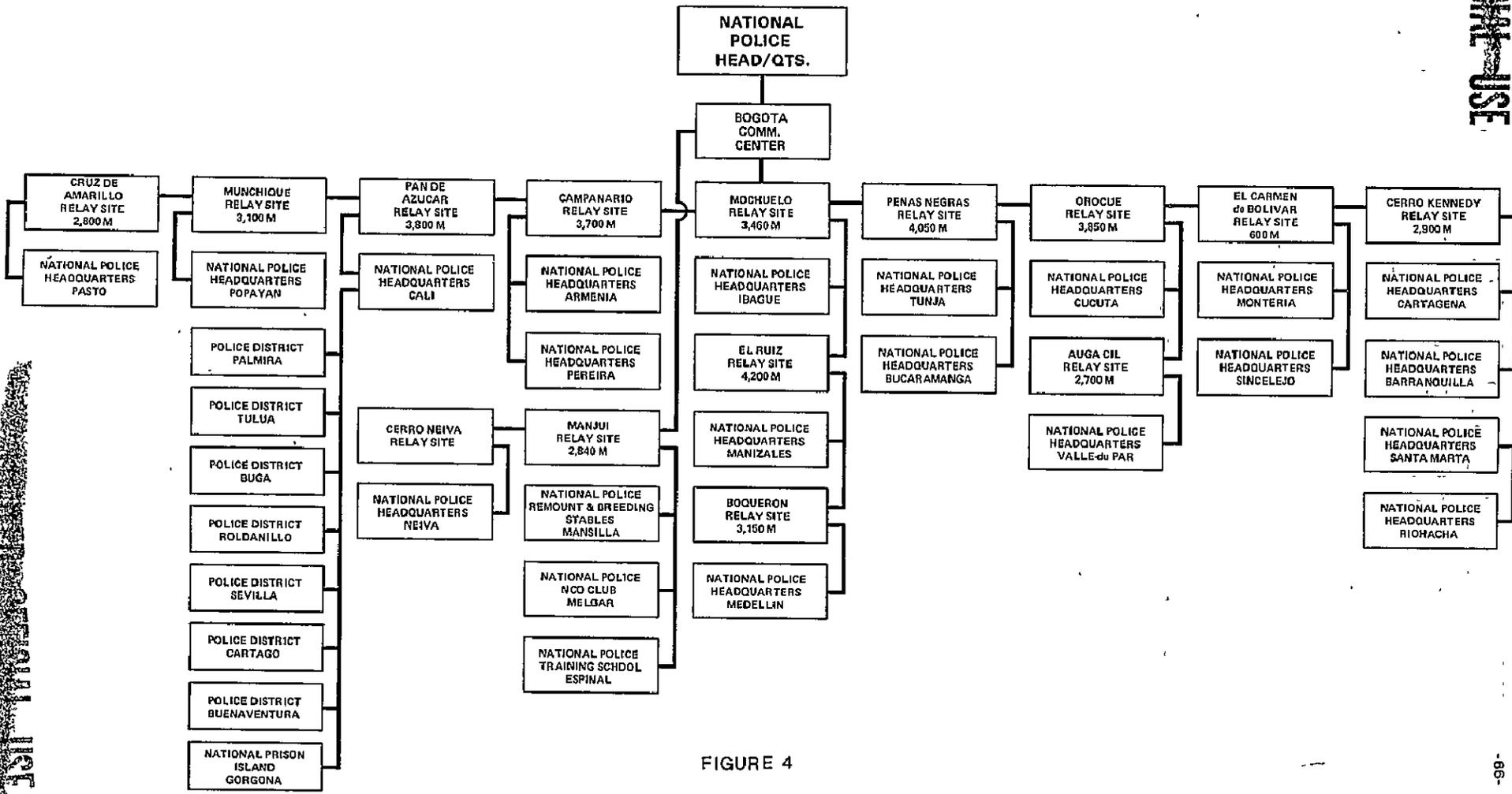


FIGURE 4

# TELEX SERVICES (TELECOM CONTRACT) FOR THE COLOMBIA NATIONAL POLICE

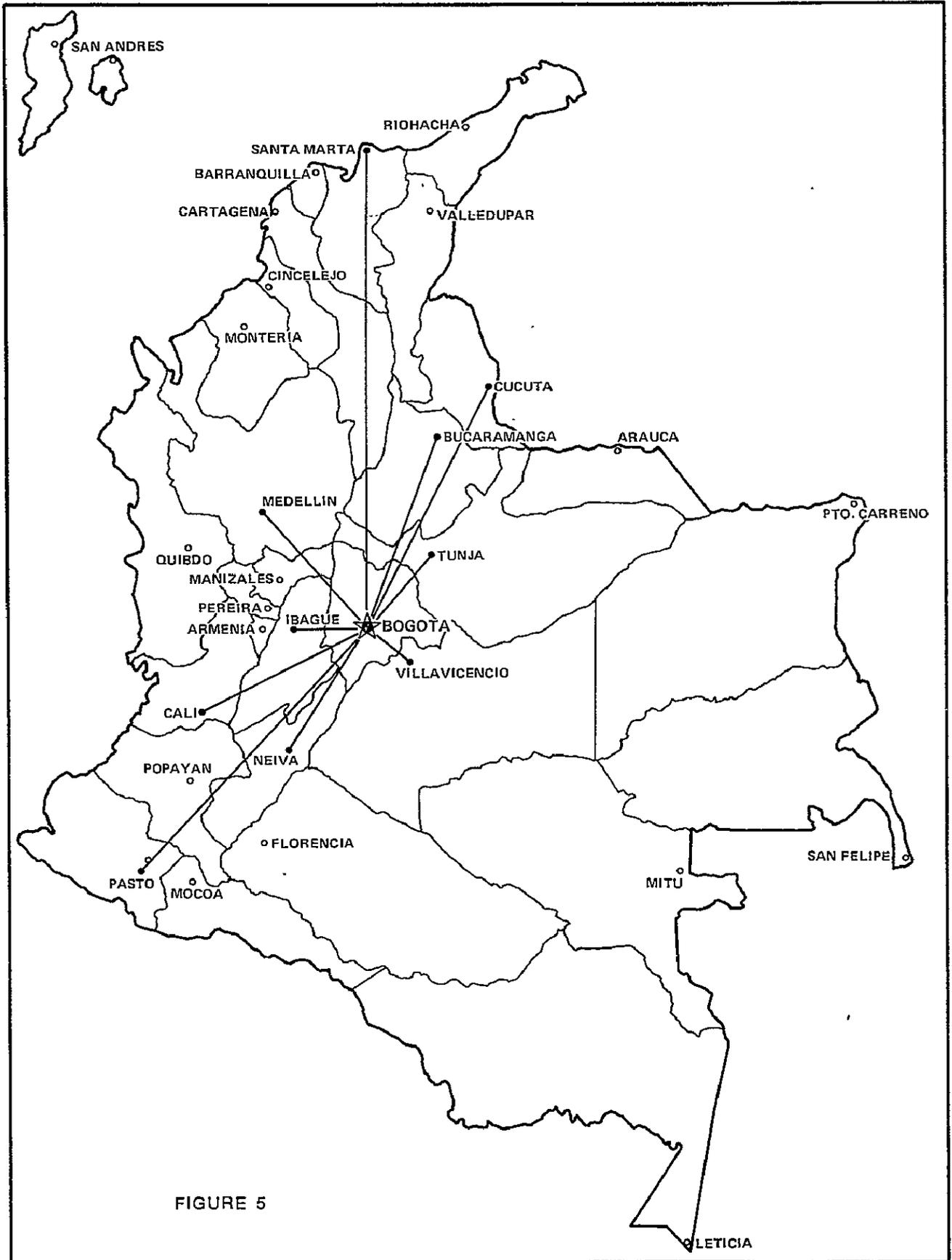


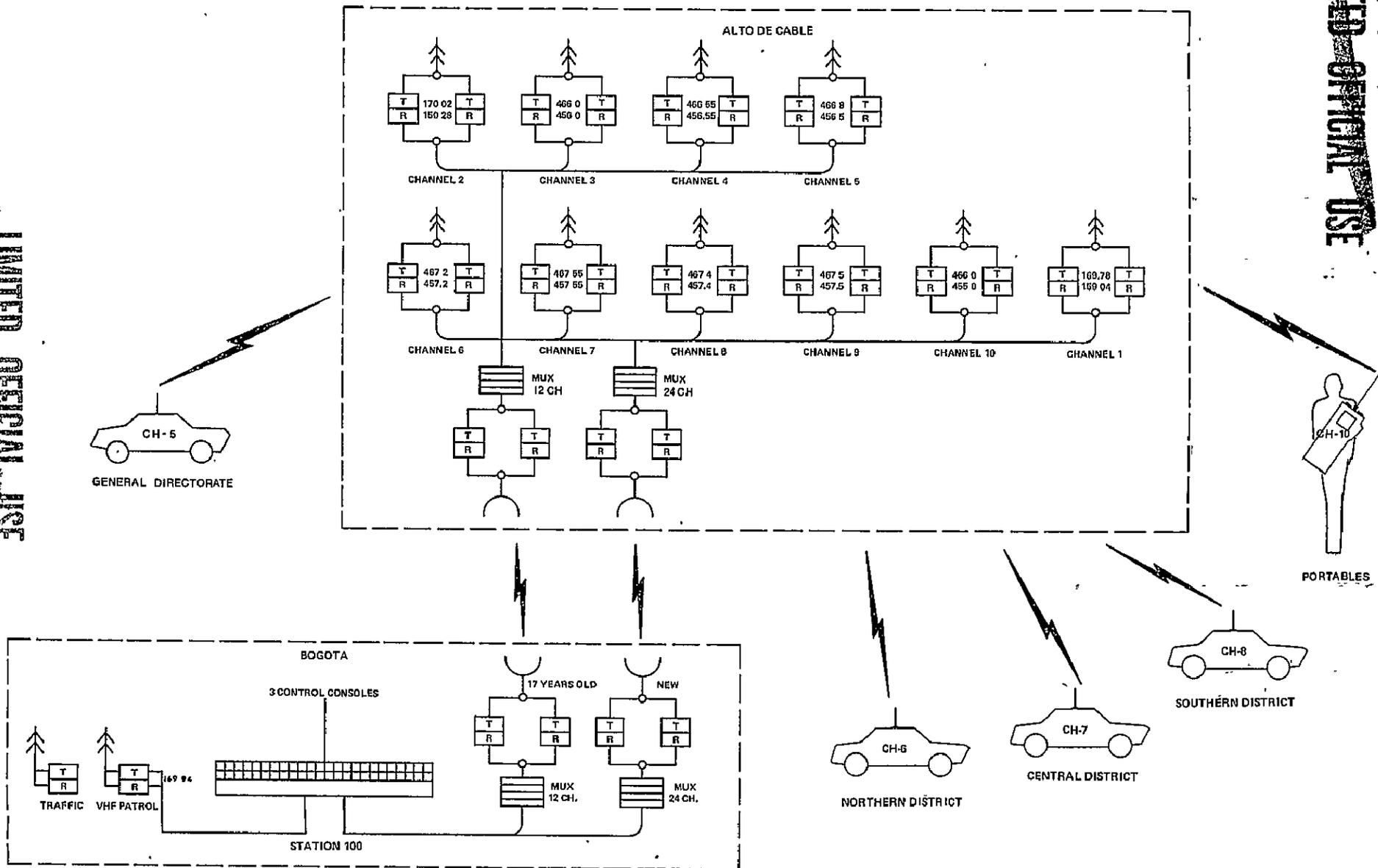
FIGURE 5

FIGURE 6

# BOGOTÁ NATIONAL POLICE URBAN NETWORK

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# COLOMBIA NATIONAL POLICE COMMUNICATIONS \* BOGOTA \*

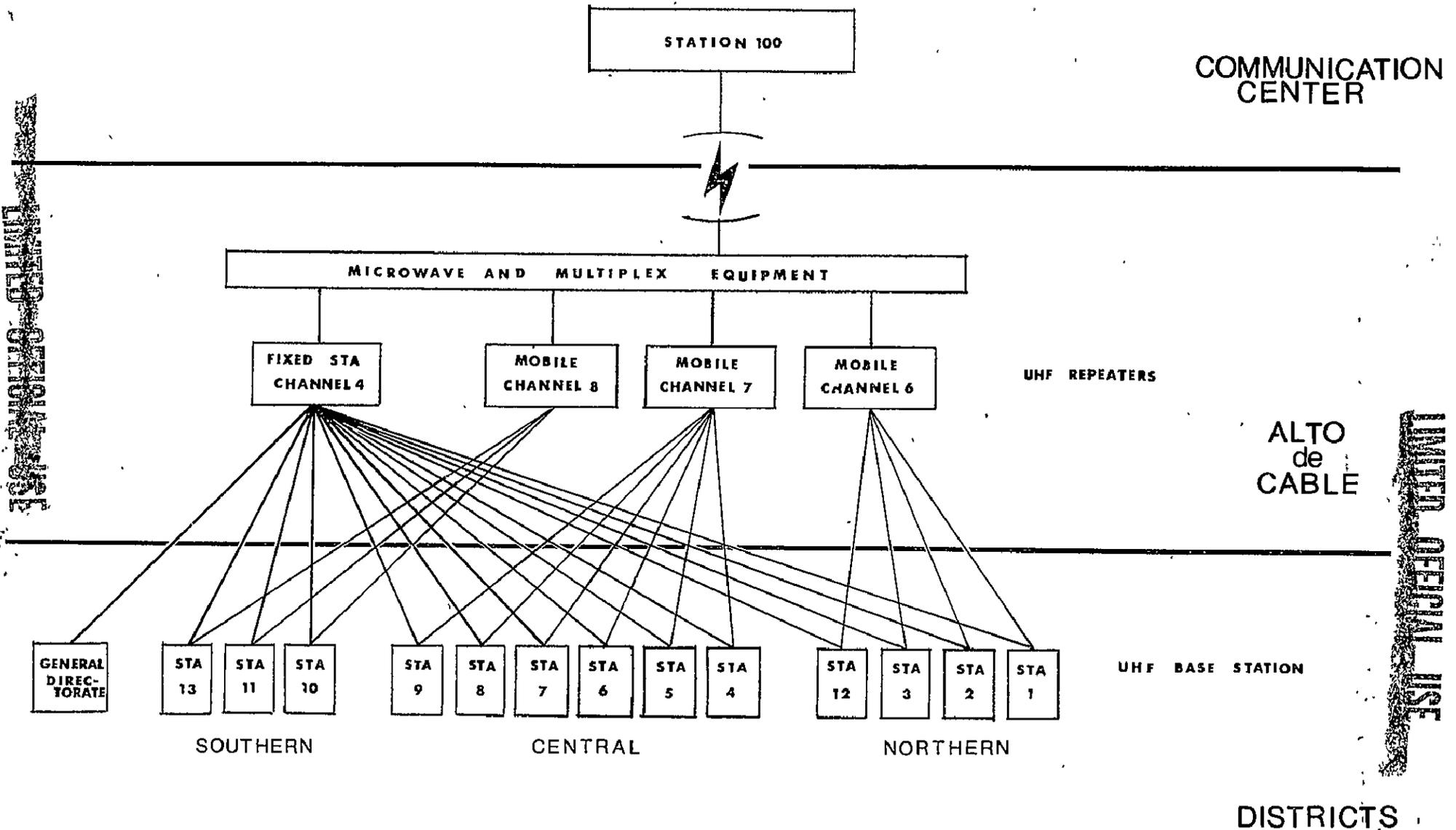


FIGURE 7