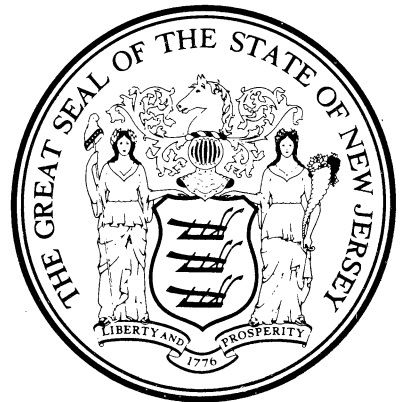


PROPERTY OF
NEW JERSEY STATE LIBRARY

MAY 1 1970

185 W. State Street
Trenton, N. J.

STATE LAW ENFORCEMENT PLANNING AGENCY



*974.90
P126
1969-10-3*

A REPORT ON ACTION
GRANT A-1:

THE ALERT SYSTEM

DISSEMINATION DOCUMENT

NO. 4

NOVEMBER 15, 1969

FOREWORD

This manual is dedicated to the needs of the career law enforcement officer in the State of New Jersey. It provides information about the program and detailed instructions for participation in and operation of the ALERT system. The concept behind ALERT is that the law enforcement agencies of the state can progress best by working as a team of independent but cooperating entities.

Two quotations on some past problems faced by law enforcement officials are pertinent to ALERT:

"The inability of the various police forces to broadcast over one another's radio frequencies created major communications problems. The absence of a single radio communications channel for all police forces hampered the performance of all riot control elements."⁽¹⁾

"Miniaturized communications equipment for officers on foot is critically needed for command and control in civil disorders; particularly if the riot commanders are to exercise effective command and control over police units in control operations. At the present time police officers can generally communicate only to headquarters and only from a police vehicle. This commission, therefore, endorses the recommendations made by the crime commission that the Federal Government assume the leadership in initiating and funding portable radio development programs for the police."⁽²⁾

⁽¹⁾ Report for Action, Governor's Select Commission on Civil Disorders, State of New Jersey (Lilley Commission), page 143. Finding Number 7.

⁽²⁾ Report of the National Advisory Commission on Civil Disorders (1968), (Kerner Report), pp. 268-269, (emphasis on the originals).

ACKNOWLEDGEMENTS

The cover photo was provided through the courtesy of the New Jersey State Police.

The Kelly Scientific Corporation, 3900 Wisconsin Avenue, N.W., Washington, D.C., has been the Consultant for the Project ALERT program.

TABLE OF CONTENTS

I. PROJECT ALERT – AN OVERVIEW

Purpose and Capabilities	3
Background History	5
Elements of the System	7

II. PARTICIPATION IN THE SYSTEM

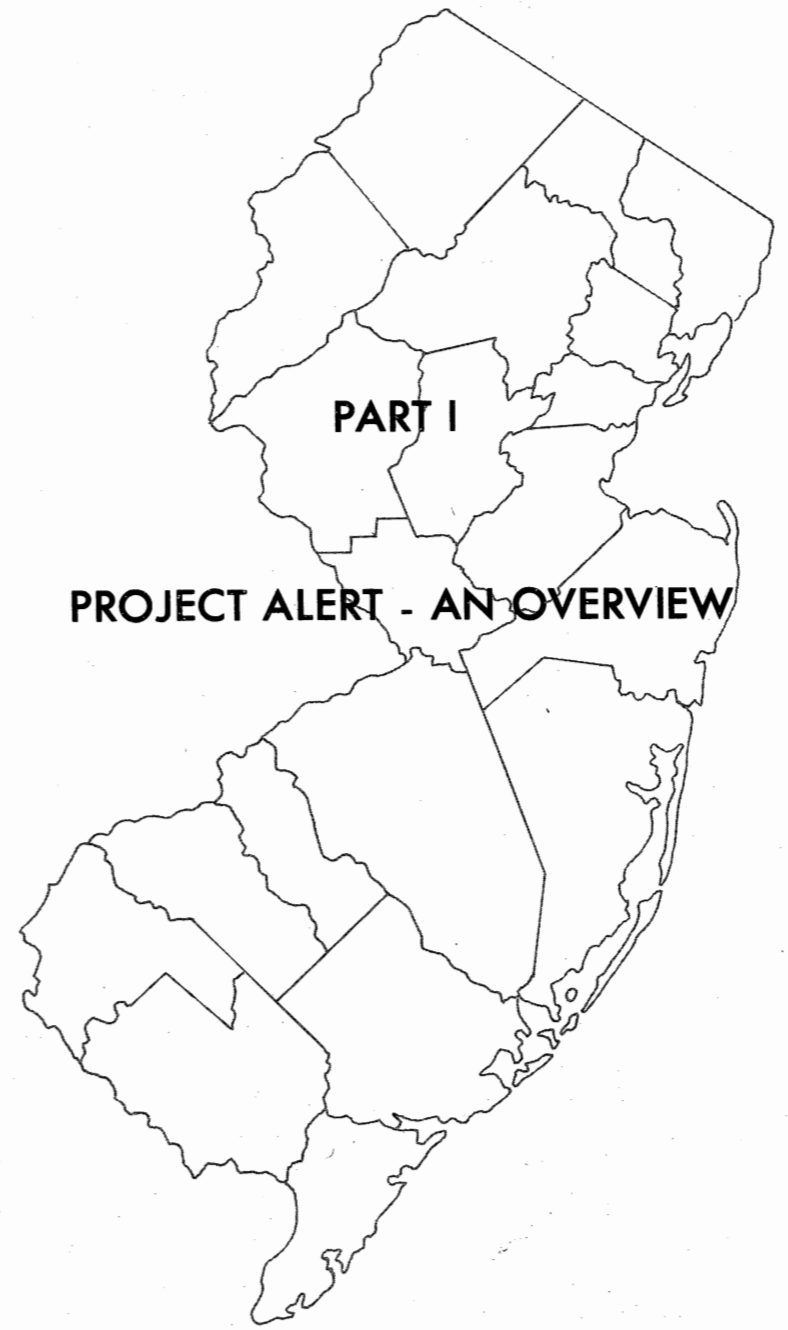
Types of Participants	13
Agency Qualification	13
When and How to Request Project ALERT Equipment	13

III. RESPONSIBILITIES OF PARTICIPANTS 17

IV. OPERATIONAL PHILOSOPHY 21

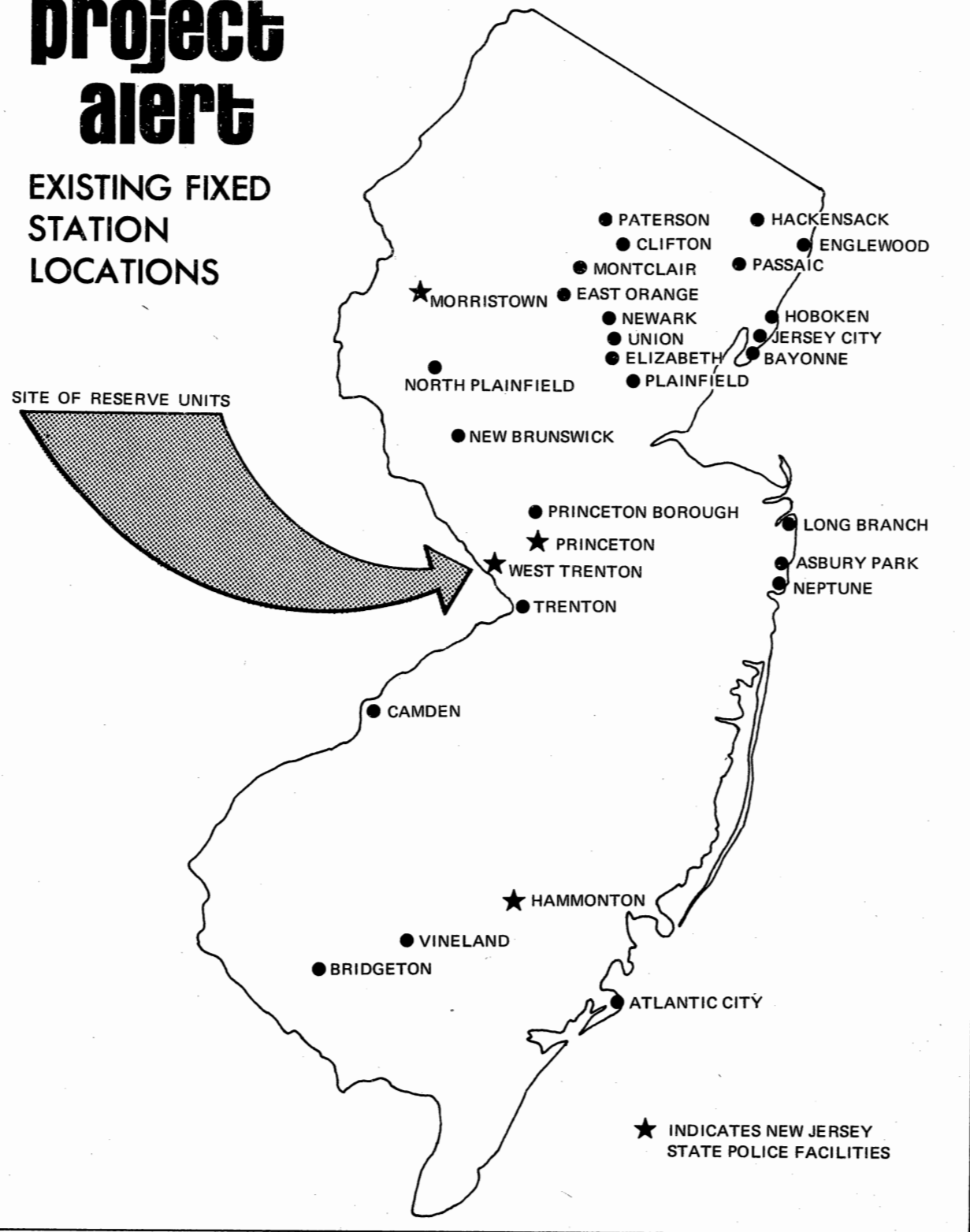
V. DETAILED OPERATING INSTRUCTIONS

Modes of Operation	25
Equipment Operating Instructions	26



project alert

EXISTING FIXED STATION LOCATIONS



PART I PROJECT ALERT – AN OVERVIEW

PURPOSE AND CAPABILITIES

Project ALERT (Allied Law Enforcement Radio Tie) is the code name of a portable radio system owned jointly by the State of New Jersey and all the law enforcement agencies in the state. It is designed to provide standby capabilities in all areas of the state, i.e., capabilities that can be rapidly expanded in times of emergency to supplement the police mobile and portable radio communications already in existence in the area of need. The participating agencies are also encouraged to use their standby Project ALERT equipment for purposes stated below in order to insure that the equipment is operationally ready when needed for emergencies.

The system therefore is designed to function in two different modes:

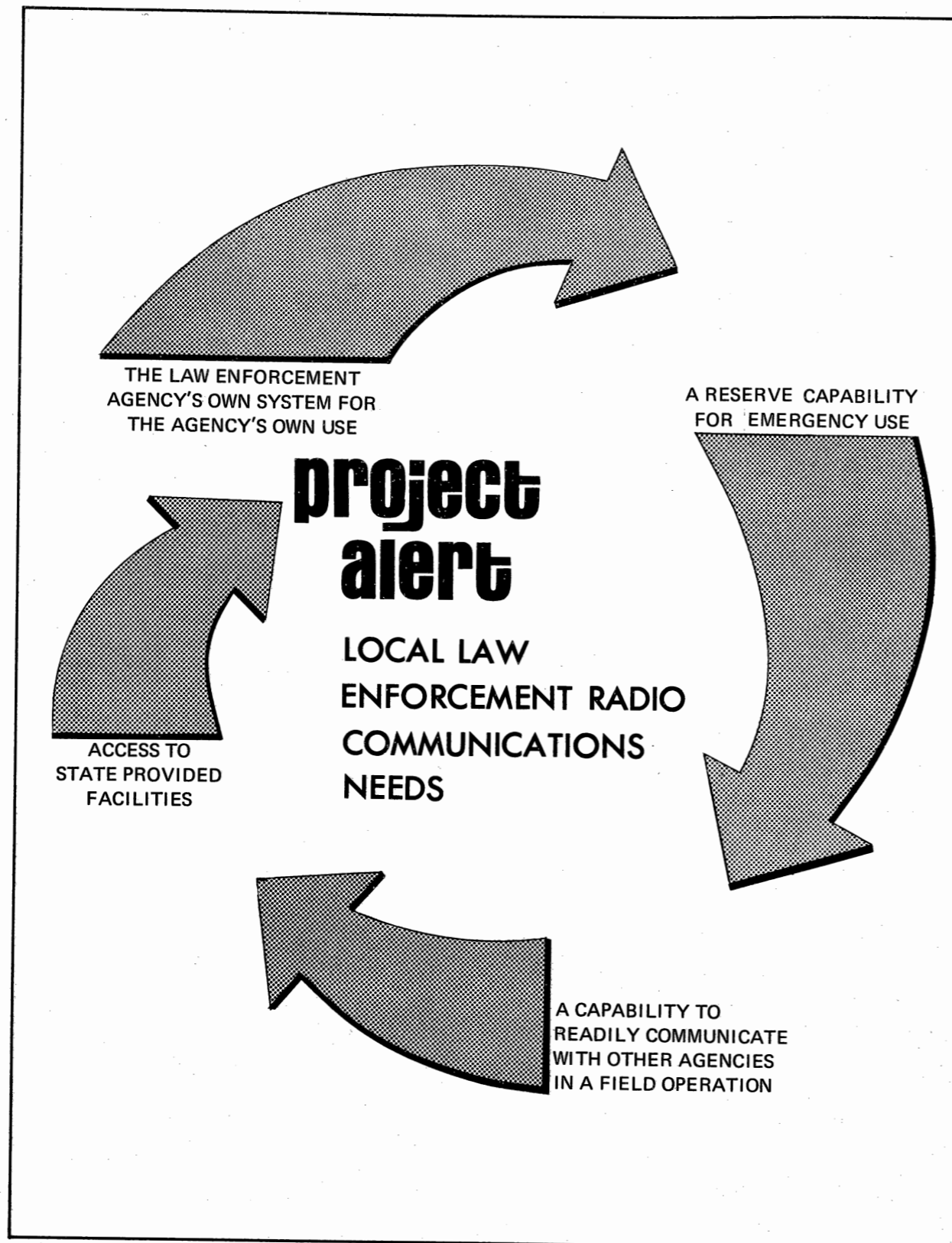
- Emergency Operations:

During civil disorders, natural disasters, or other emergency conditions, an expanded portable radio network can be established rapidly in the area of need through Project ALERT facilities.

- Routine Operations:

Under day-to-day working conditions, any law enforcement agency in the State of New Jersey would have the facilities and equipment to utilize by radio the general State information capabilities file.

There was developed within the State's own facilities and is being developed nationally, a very comprehensive data base on such items as stolen cars, stolen property, wanted fliers, and fugitive warrants. The Project ALERT equipment can be extended to serve in this information access system as the communications link between the local law enforcement agency and the local area terminal of the state communications computer complex. The state system in turn interconnects with the national crime information system maintained and operated by the FBI in Washington.



Some of the advantages of Project ALERT are as follows:

- A law enforcement agency's own radio system is not affected by the need to have a reserve system for emergencies. Project ALERT provides this reserve.
- A capability is available to readily communicate with other agencies *in field operations* on an as needed basis.
- A capability is provided for ready access to state-provided criminal justice information facilities.
- A capability is available to maintain communications with personnel on assignment outside the range of local communications.

While the primary purpose of Project ALERT is to provide a framework for an expanded network for emergencies, the approach of having the system become available in the future for daily use is considered good operational practice. A system which is used on a day-to-day basis is more likely to be operational when needed for emergencies than is one that is seldom tested and used.

BACKGROUND HISTORY

The development and implementation of Project ALERT resulted from recognition of several factors which include:

- The civil disorders over a period of several years and the need to be able to respond to such disorders.
- The limited availability of radio spectrum for use by New Jersey law enforcement mobile fleets.
- The availability of federal funds for assistance in civil disorders through the provisions of the Omnibus Crime Control and Safe Streets Act of 1968.

On Tuesday, August 13, 1968, the Governor of New Jersey received a telegram from the United States Attorney General stating that the appropriations bill for Public Law 90-351, (The Omnibus Crime Control and Safe Streets Act of 1968) had passed and was expected to be signed by the President on August 14, 1968. The Justice Department had decided to implement Section 307(b) of Public Law 90-351, which allowed emergency grants up until August 31, 1968, despite the fact that only eighteen days remained for the entire application and grant process. It was indicated further that under the terms of Section 307(b) New Jersey's allocation for riot control purposes during fiscal 1969 could be awarded before August 31, 1968 without prior submission of the statewide comprehensive law enforcement plan.

By the deadline of 5 p.m., Thursday, August 22, 1968, 128 written applications had been received by the State Law Enforcement Planning Agency from New Jersey municipalities for all riot control purposes, as well as for training or police-community relations. Of this total, 76 agencies requested emergency communications equipment.

On August 23, 1968, in a meeting in the Office of the Governor of New Jersey, the applications were reviewed in terms of:

- Applicability to riot control
- Demonstrated need
- Benefit to be derived

Although the merits of the many individual requests were recognized, the funding limitations and the magnitude of the total needs suggested the wisdom of a single program from which all agencies in the state could benefit. This was considered to be a superior approach to fragmentation of the resources into many programs some of which might be only marginally funded. It was this approach that led to the acceptance of the Project ALERT concept—a program for making emergency police radio communications resources rapidly available anywhere in the state when needed.

ELEMENTS OF THE SYSTEM

General

Each of the sub-grantees are licensed participating municipalities and have been furnished with one fixed base station and four portable units. The portable units have been assigned identification numbers escalating from north to south so that identification of the user can be geographically determined by his number. The licensed participating agencies are indicated in the illustration immediately preceding Part I and the allocation of identification numbers is given in Table 1.

Distributed System (Fixed Base)

- Twenty-nine (29) Master Progress Line Series 50 Transmitters with General Electric DESKON remote control units are already installed and in operation in each of the twenty-five (25) licensed participating agencies and at four (4) State Police locations as shown on the previous illustration.
- One hundred (100) HT 200 Motorola Handie Talkies with mercury batteries, four to each of the twenty-five (25) licensed sub-grantees.

Reserve System

The reserve system is available when needed in a specific area and consists of the following:

- Three (3) portable base stations Motorola Model PT300;
- Fifty (50) Motorola Series HT 200 with Mercury batteries;
- Necessary peripheral equipment to assure proper system operation during emergency use.

Radio Frequencies

The present operational Project ALERT equipment uses two low band channels. The 39.76 MHz channel is referred to commonly as the green channel and is available generally for local agency use. The 39.80 MHz

TABLE 1
IDENTIFICATION NUMBERS ASSIGNED TO PORTABLE UNITS

LOCATION	NUMBERS
PATERSON	1 through 4
HACKENSACK	11 through 14
ENGLEWOOD	21 through 24
CLIFTON	31 through 34
PASSAIC	41 through 44
MONTCLAIR	51 through 54
EAST ORANGE	61 through 64
NEWARK	71 through 74
HOBOKEN	81 through 84
JERSEY CITY	91 through 94
BAYONNE	101 through 104
UNION	111 through 114
ELIZABETH	121 through 124
NORTH PLAINFIELD	131 through 134
PLAINFIELD	141 through 144
NEW BRUNSWICK	151 through 154
PRINCETON BOROUGH	161 through 164
TRENTON	171 through 174
LONG BRANCH	181 through 184
ASBURY PARK	191 through 194
NEPTUNE	201 through 204
CAMDEN	211 through 214
BRIDGETON	221 through 224
VINELAND	231 through 234
ATLANTIC CITY	241 through 244
RESERVE UNITS	301 through 350

channel, referred to as the white channel, is generally reserved for interagency communications.

The prime need satisfied by Project ALERT was that of providing a highly reliable, simple-to-maintain communication system that could be installed easily and made operational quickly. If high band were used, there would be somewhat reduced performance in the city-to-city mode of communications. The low band Project ALERT system has the potential for providing excellent coverage between cities.

Base Transceiver Equipment

Local law enforcement agencies, which operate base stations, have been requested to place the DESKON control console in a location that is convenient to the police dispatcher. The base station transmitting equipment itself can be placed at a location appropriate to the locality, as determined by an engineering study.

The base radio transmitter-receiver units are transistorized and equipped with 131.80 Hz tone squelch. The transmitter is designed to provide a power output variable between 5 and 50 watts.

The base stations provided are G.E. Master Progress Line Series equipped with a side mount antenna. Transmission lines of the coaxial type with foamed polyethylene dielectric are also provided. Special installation requirements in a few cities prevented the use of side mount antennas but performance was not compromised.

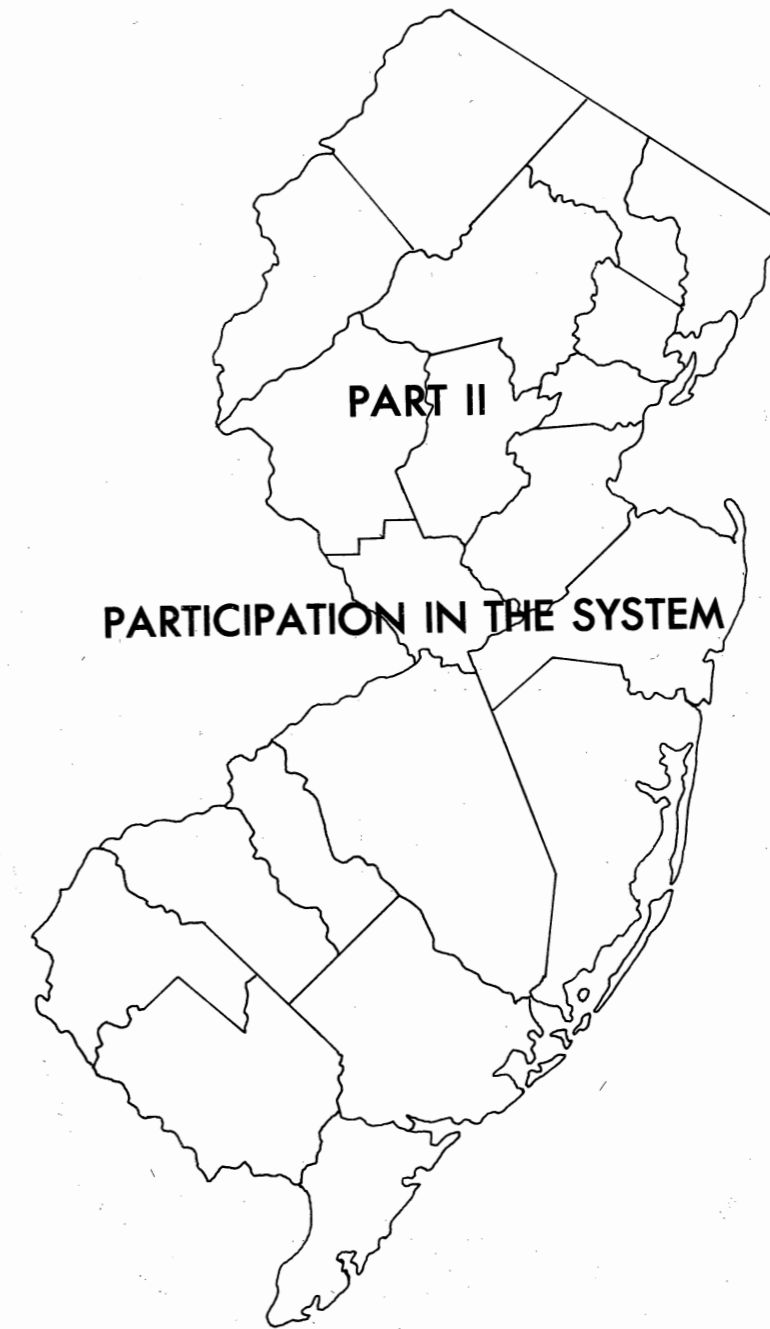
Hand-Held Portable Equipment

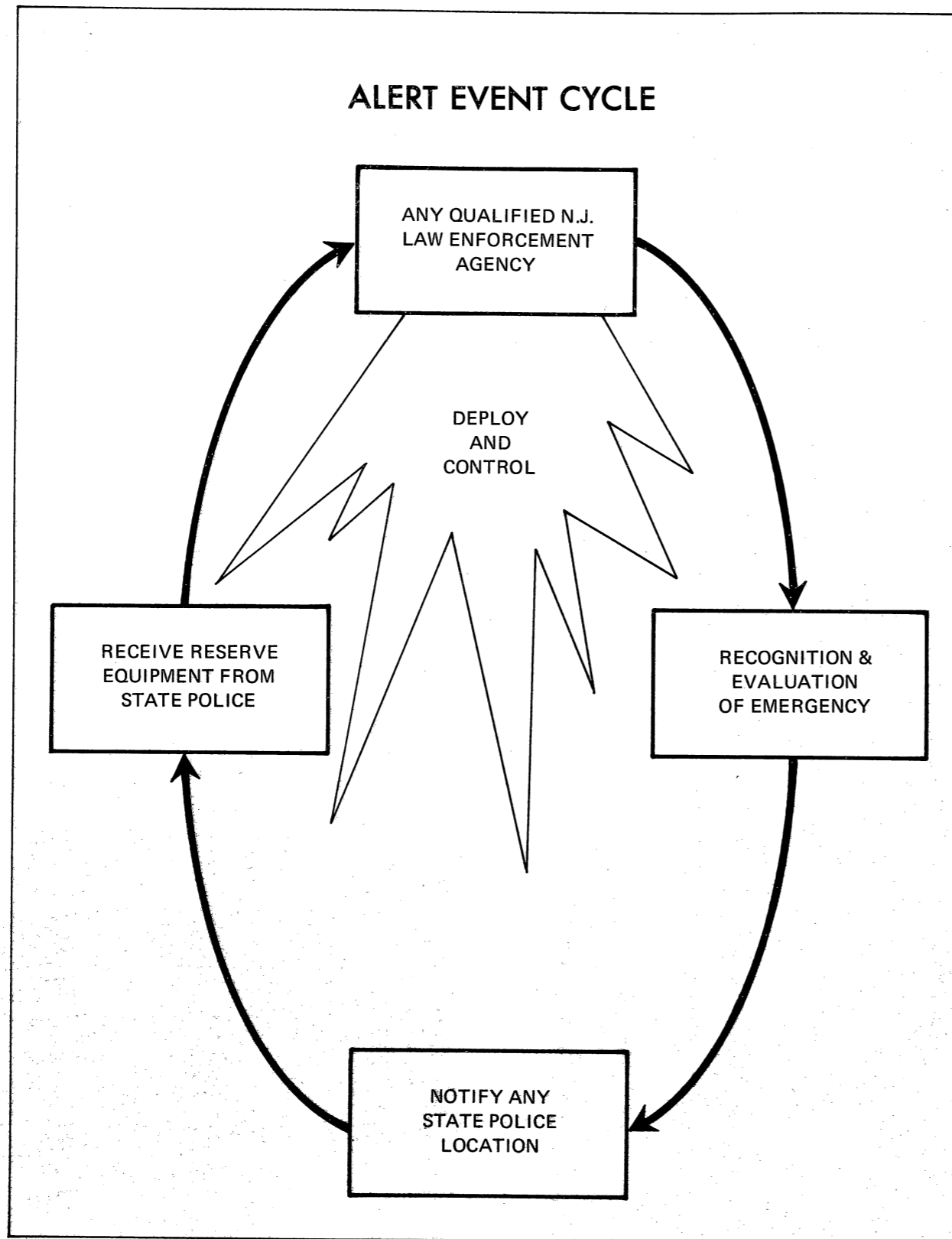
The hand-held portable transmitter-receiver units are equipped to operate with a minimum power output of 1.4 watts on the green and white channels and to respond to the 131.80 Hz tone squelch of the base units. All portables have speaker microphones and come completely furnished with crystals, mercury batteries, and leather carrying case with shoulder strap. The batteries are of the long-lived variety but are not rechargeable.

Replacements can be obtained through normal electronic supply channels. In the event of emergency operations, however, battery replacements will be provided at no cost through SLEPA. These hand-held units were selected to be compatible with rechargeable nickel-cadmium batteries which are recommended for day-to-day use.

Auxiliary Additional Equipment

The portable base stations have external antennas complete with vehicle rain gutter mounting clip and connecting cables. These transmitters operate with a maximum power output of five (5) watts.





PART II PARTICIPATION IN THE SYSTEM

TYPE OF PARTICIPANTS

Project ALERT provides for two types of participants:

- *FCC-Licensed Participants*—These are law enforcement agencies with Project ALERT equipment and which have been authorized to operate on the ALERT frequencies. This group includes the twenty-five (25) sub-grantees who have a permanent base station and four portables each allocated under the terms of the LEAA grant application. It will include also any agency which applies for and obtains approval from the ALERT Managing Agency, the New Jersey State Police, to operate their own equipment on the ALERT frequencies. These agencies also are eligible to use the reserve equipment.
- *Non-Licensed Participants*—These are legally constituted law enforcement agencies in the state which do not have permanently held Project ALERT equipment. These agencies may request and use the reserve ALERT equipment to meet extraordinary communications needs.

AGENCY QUALIFICATION

The ALERT reserve equipment is jointly owned by the State and all law enforcement agencies in the State. Controlled expansion of the system is necessary to insure that the ALERT channels do not become over-crowded and that the primary application of the system to supplement local communications facilities during widespread emergencies is not compromised. After a local agency has requested Project ALERT equipment, and after approval is obtained, the New Jersey State Police who function as the ALERT Managing Agency, will advise, if desired, the local agency on the purchase and installation of equipment.

WHEN AND HOW TO REQUEST PROJECT ALERT EQUIPMENT

The reserve ALERT equipment should be requested if an immediate or future operation is expected to:

- Require a total or large scale manpower commitment;
- Involve a combined operation between cooperating agencies,

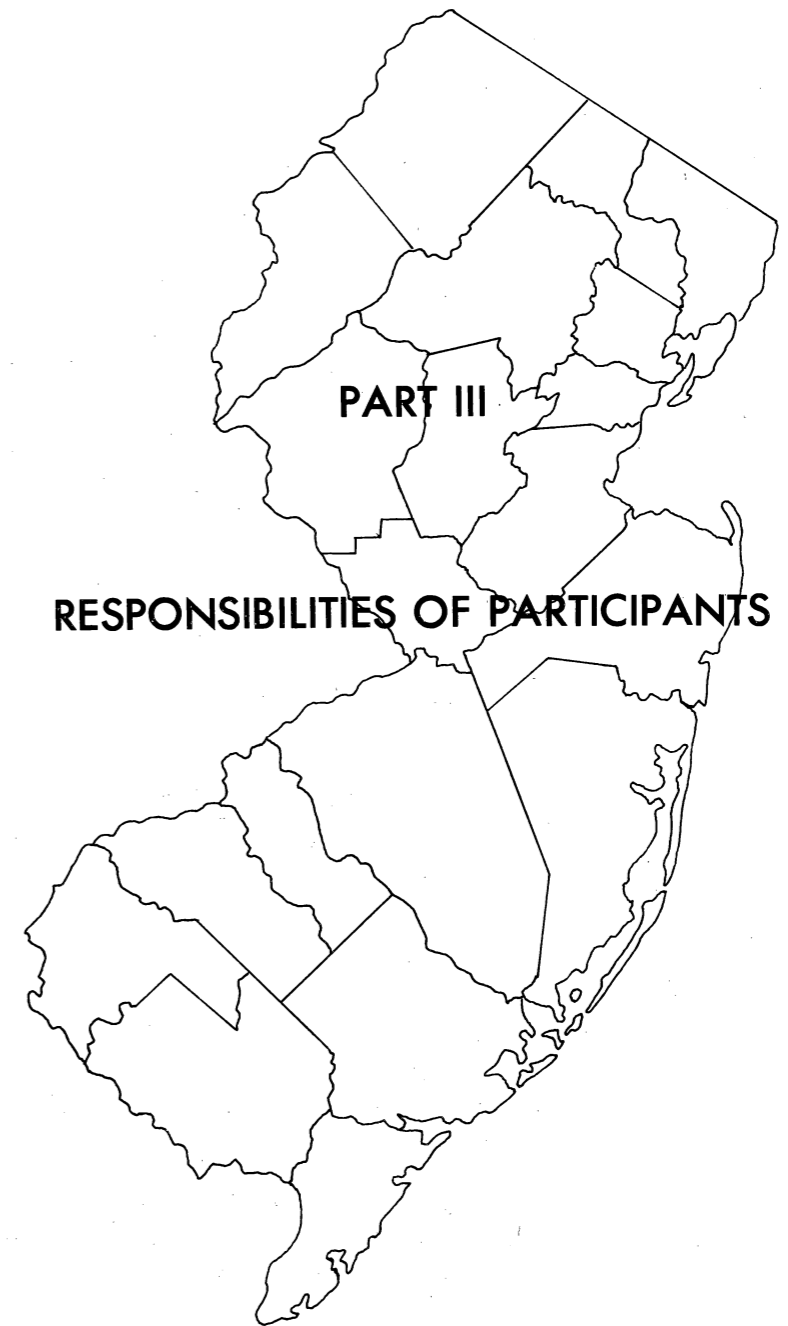
AND

- Existing radio facilities cannot provide the necessary communications, or;
- The use of existing radio facilities for that operation will compromise communications in performing the normal police function of the agency.

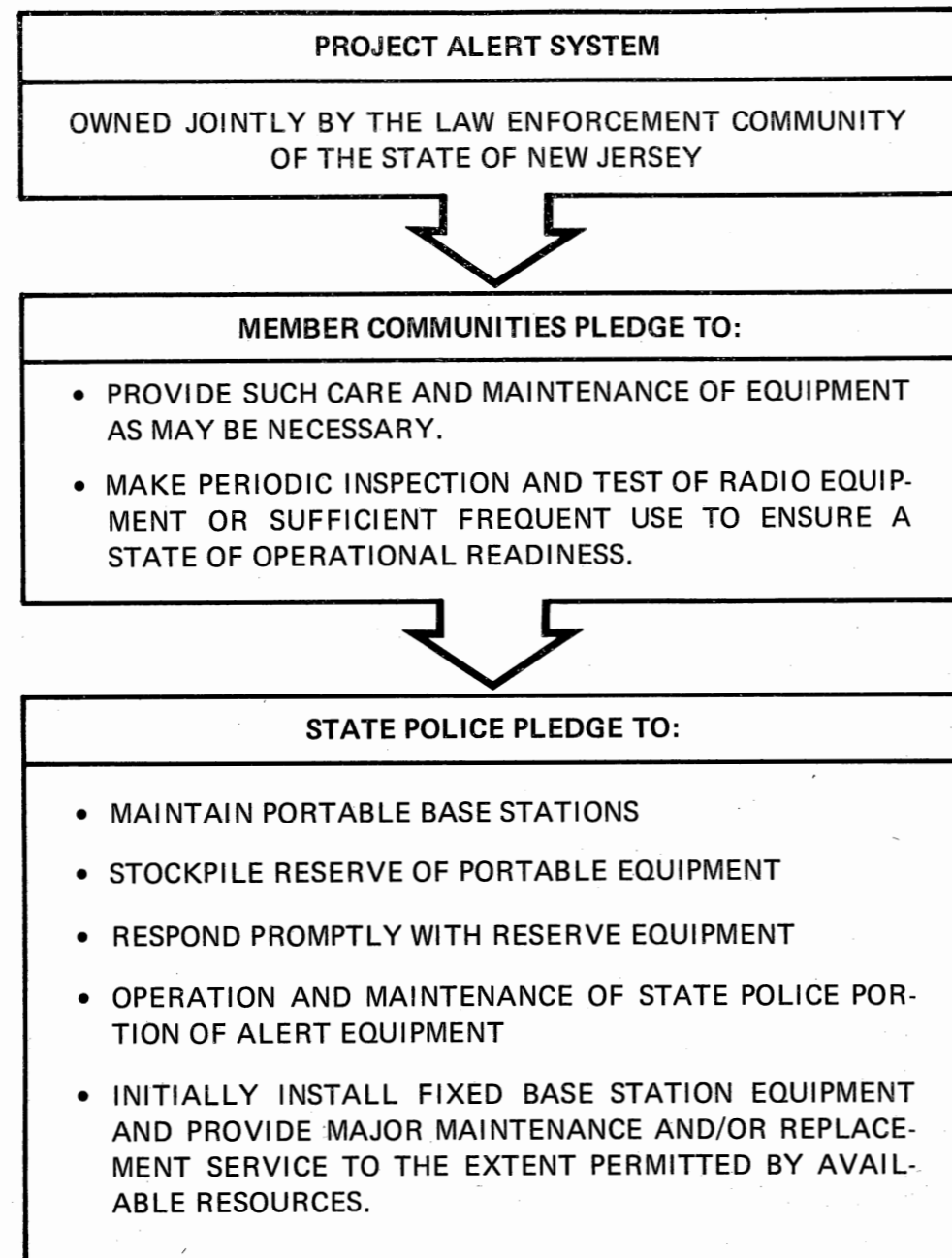
Recognizing that the primary responsibility for the control of emergency situations rests with the local governing body, the following general descriptions of appropriate situations may be useful in determining when ALERT reserve equipments might be needed:

- Class I — A disorder or disaster that is within the capability of the local law enforcement agency to control with their own resources.
- Class II — A situation beyond the capability of a particular jurisdiction but within the capability of local agencies augmented by neighboring agency resources.
- Class III — Operations which are still the primary responsibility of local jurisdiction but requiring the addition of limited State Police assistance.
- Class IV — Those situations that are beyond the capabilities of local agencies and require that the Civil Defense Disaster Act be invoked by the Governor.

Any accredited law enforcement agency in New Jersey may request the use of a portion or all of the reserve ALERT system by reporting its need to any State Police facility by telephone, teletype, or radio. At that time, as much detail as possible about the emergency to which the ALERT equipment will be applied should be transmitted to the State Police to aid in determining how much of the reserve system is needed and how rapidly it should be sent. The expected manpower commitment, the period of time for which the radio commitment will be made, a description of the geographic area involved and whether the operation involves crowd control, civil disturbance, or special security details, should be reported with the request. If possible, the requesting agency should make a realistic estimate of its needs because of the possibility of simultaneous requests from widely separated areas.



COOPERATION AND RESPONSIBILITY



PART III RESPONSIBILITY OF THE PARTICIPANTS

The land mobile radio channels used in Project ALERT have been assigned to the State of New Jersey by the Federal Communications Commission. Because of this fact, all regulations, operations, and procedures of the Project ALERT system are subject to the approval of the New Jersey State Police, acting as the agent for the state. In turn, the State Police are responsible to the Federal Communications Commission for the operation of the system in accordance with those rules presented under Part 89 of the FCC rules and regulations.

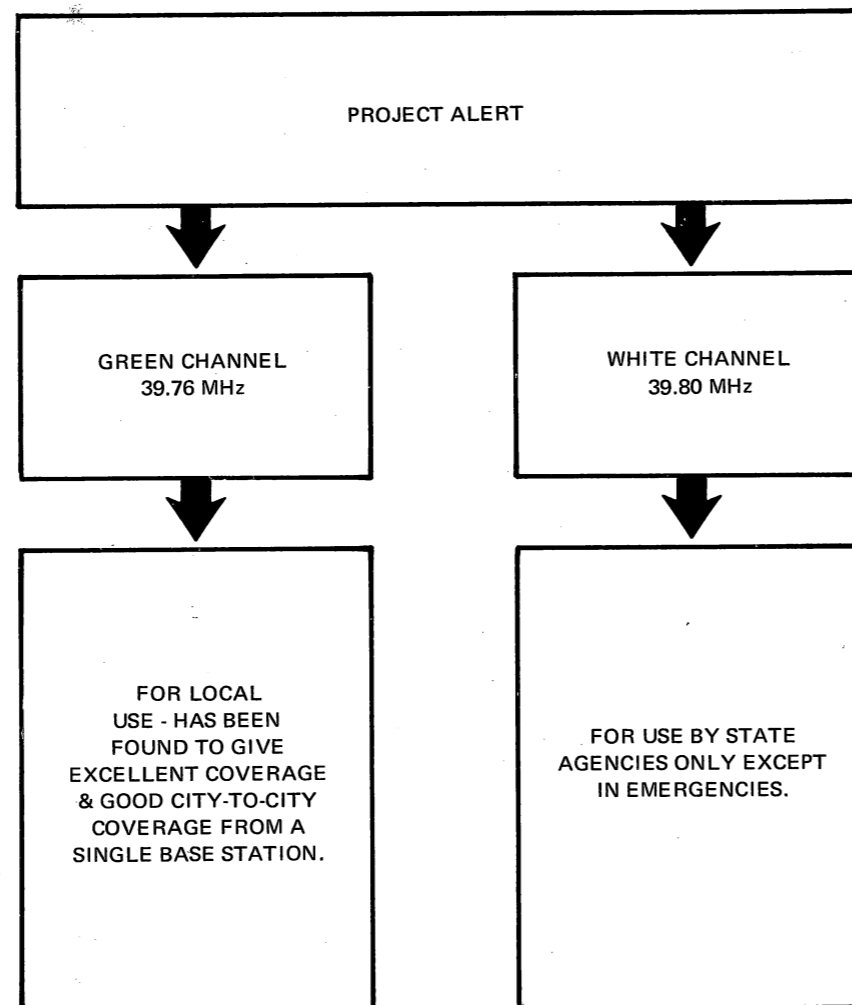
Responsibility for system management is divided among the following three groups of users:

- *New Jersey State Police*—This organization, designated Manager by the SLEPA contract, has the following responsibilities:
 - a. Initial installation and maintenance of reserve and sub-grantee equipment.
 - b. Storage and distribution of reserve equipment.
 - c. Assistance in validating requests for Project ALERT facilities.
 - d. Maintenance of the system to the extent permitted by available resources.
 - e. Regulation of operation and expansion of system.
 - f. Ensuring of conformance to FCC regulations.
 - g. Provision of technical services to ALERT users or candidate users.
- *FCC Licensed Participants*—Those agencies in which a permanent base station installation has been established and licensed for operation by FCC are responsible for:

- a. Conforming to operating regulations (see Section 4) and applicable FCC regulations.
 - b. Providing appropriate care and incidental maintenance, including battery replacement, of assigned equipment and of reserve equipment when assigned.
- *Non-Licensed Participants*—Any law enforcement agency which requests and obtains use of Project ALERT equipment in an emergency has the following responsibilities:
 - a. Conforming with operating regulations (see Section 4) and with the applicable FCC regulations.
 - b. Proper care and maintenance of reserve system when assigned.



CHANNEL APPLICATIONS



PART IV OPERATIONAL PHILOSOPHY

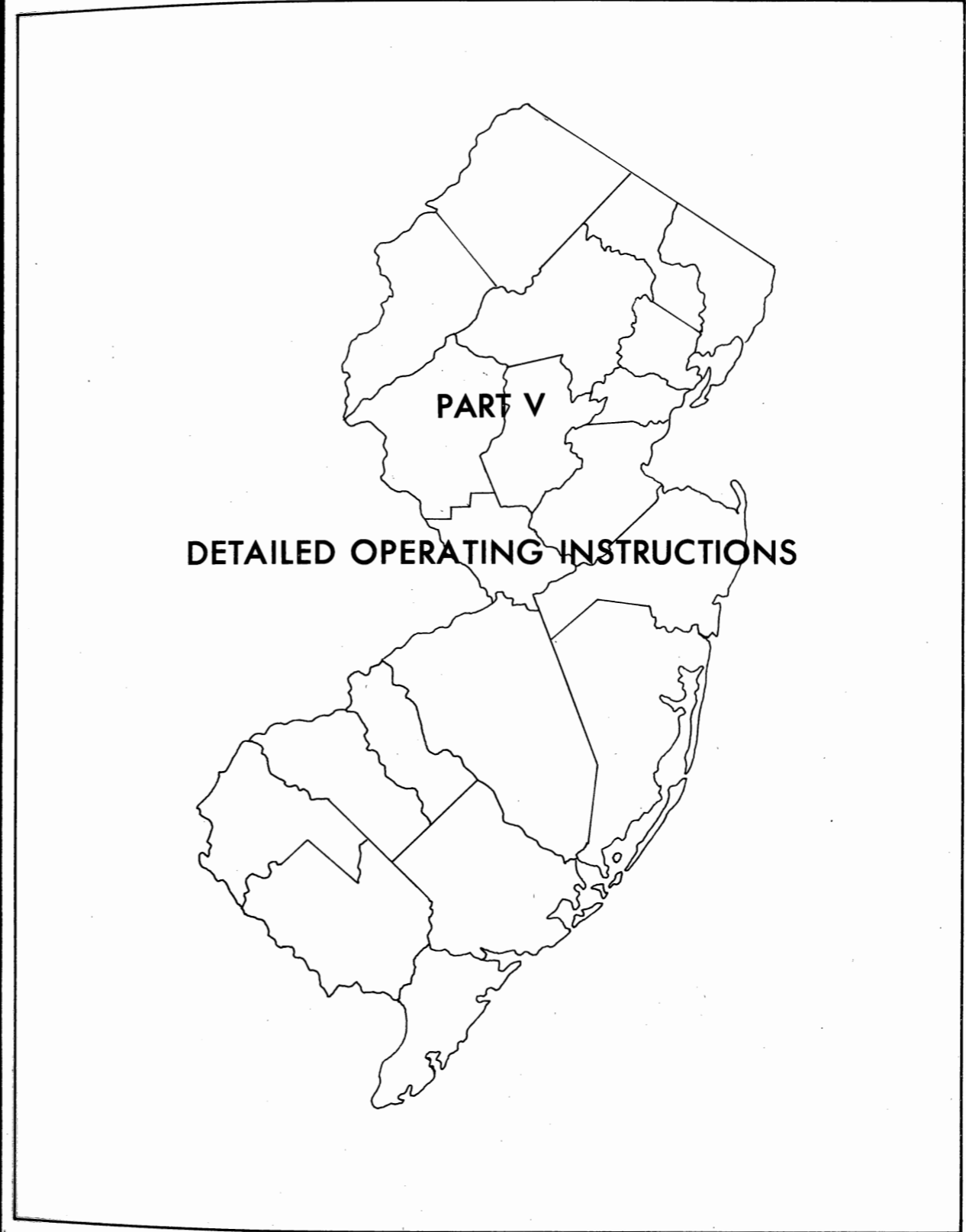
The operational requirements placed on the user of the Project ALERT equipment are considered to be relatively mild. They are dictated primarily by the fact that only two radio channels are used in the system over the entire state and by the need to insure that the equipment is operationally ready when needed.

Channel No. 1 has been designated the green channel and may be used by the participating agencies. The operational philosophy is relatively simple:

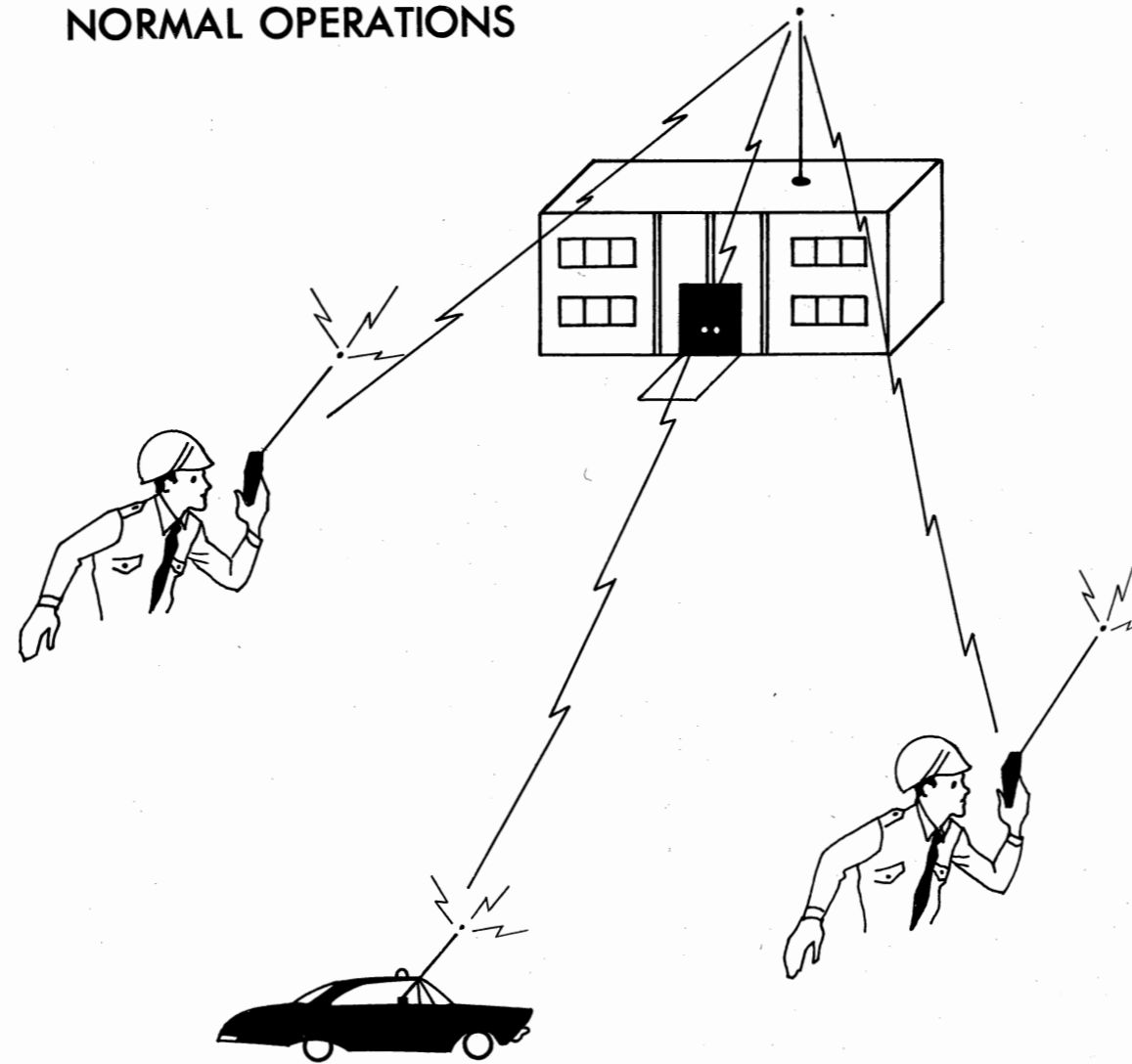
- Use the green channel in emergency situations and test regularly to be sure equipment is operational.
- Look upon the Project ALERT equipment primarily as a backup for emergencies.
- Do not go to the extreme of forbidding the use of the Project ALERT green channel in normal times since some use insures operational readiness.

Channel No. 2 has been designated as the white channel and is presently reserved for use by the state agencies.

In an emergency the police executive who has Project ALERT equipment should be aware that he has the framework of a larger system. The system expansion can be rapidly effected since the New Jersey State Police are prepared to move additional Project ALERT equipment into any area when necessary.



NORMAL OPERATIONS



PART V

DETAILED OPERATING INSTRUCTIONS

MODES OF OPERATION

In the usual mode of operation, the command function in the police agency will communicate with one or more portable units from the desk console. It is recommended that the base station equipment be turned on and left on for twenty-four hours of the day. The control unit should be set normally in the receive mode of the green channel.

When the system is used, a count-off or polling of each portable should be conducted to insure that no portable is located in a radio dead spot. The portable may be carried by a patrol officer or used in a vehicle. In the latter case, however, better reception is obtained if the antenna is fully extended and held outside the vehicle.

The system may be used in a portable-to-portable mode but this mode should be checked first before the actual use because of the limited range of portables.

Since certain New Jersey State Police facilities have Project ALERT equipment, the local agency will find in many cases that it can use its Project ALERT green channel to make computer inquiries through the State Police facilities and thus conveniently tie into the criminal justice data base of the state or the nation.

The user should be aware that the New Jersey State Police can supply transportable base stations that can function as emergency field communications headquarters. Portable units also may be used in such a mode. In this latter case, however, the portable being so used should be situated at as high an elevation as possible to provide extended coverage.

In regard to batteries for the portables, a survey has shown that the Motorola HT equipment is currently being used in many municipalities in conjunction with nickel-cadmium rechargeable batteries. Rechargeable batteries are interchangeable with batteries supplied in the ALERT system HT radios.

EQUIPMENT OPERATING INSTRUCTIONS

General

The two units of equipment to be utilized during an emergency are:

- Base station remote control unit
- FM portable radio

The base station remote control unit provides for operation of the system base station. These units, usually located in the police dispatching office, serve as the department's Project ALERT command center and will be operated by the department's communication personnel.

The portable radios can be utilized by field personnel of each department for connection with the Project ALERT system as well as for low volume emergency traffic.

Remote Control Unit

The DESKON Control Unit (manufactured by General Electric) should be located on a desk top or shelf and should be placed where it is easily accessible to the department's radio dispatcher.

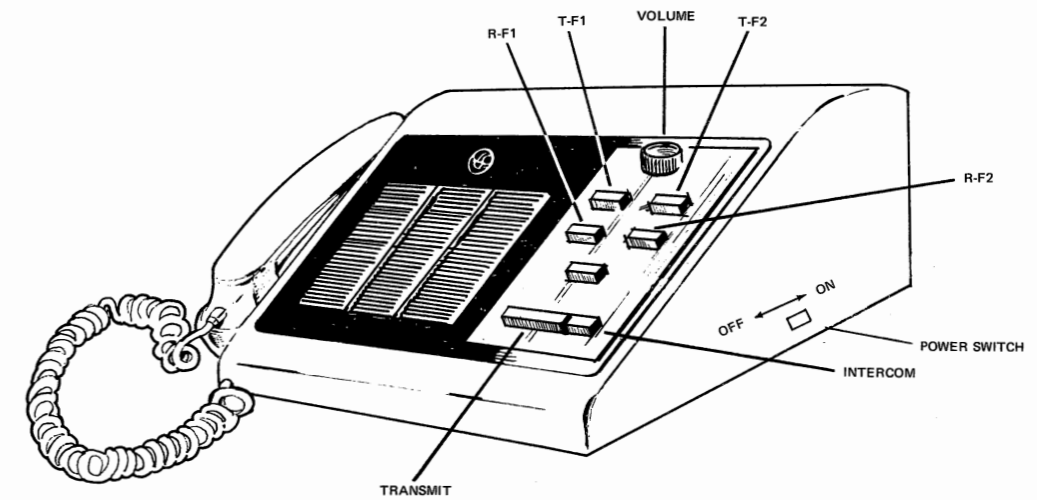
The unit is provided with both a handset and a speaker-microphone. With the handset in its normal cradle position (on hook), the system will operate in the speaker-microphone mode (see Figure 1). Releasing the handset from the cradle (off hook) mutes the speaker and places the system in handset operation (see Figure 2).

As illustrated in Figures 1 and 2, all switches and controls required for remote control operation, except for the OFF-ON lever, are located on the front of the control unit. After attaching the AC power end to a 110-volt electrical outlet, push the OFF-ON lever, located on the side of the control unit, to the ON position.

FM Portable Radio

The portable FM Radio (Motorola Model HT200) weighs approximately two pounds and delivers 1.4 watts RF output power in low band. As illustrated in Figure 3, all controls except the push-to-talk switch are located at the top of the unit.

The portable unit is designed to operate interchangeably from either a mercury battery, an alkaline battery, or a rechargeable nickel-cadmium battery. Based on a 10% transmit, 10% receive, and an 80% standby operation, the mercury battery will provide approximately 50 hours of service. The rechargeable nickel-cadmium battery will provide eight hours of operation per charge, based on the same duty cycle.



Note: With handset in its normal cradle position (on hook) as shown above, the system will operate in the speaker-microphone mode.

See Figure 2 for instructions on operating the system in handset mode.

TO TRANSMIT:

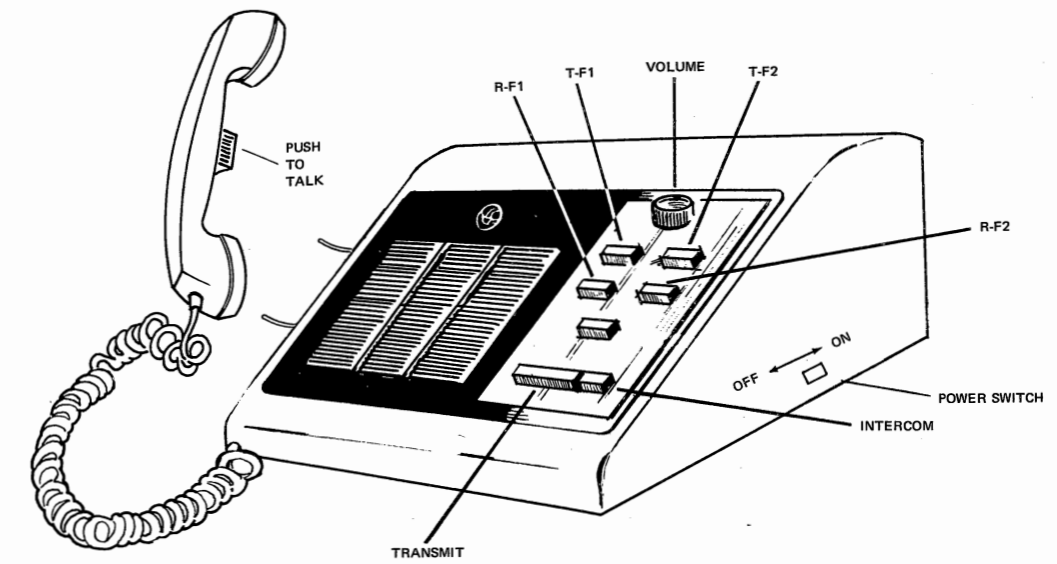
1. Slide POWER switch forward to "ON" position. Leave in this position at all times.
2. Select desired frequency channel by depressing the T-F1 or T-F2 button. (Normal working channel is T-F1).
3. Press TRANSMIT bar (a red light will appear on central unit when transmit function is selected.)
4. Talk into speaker-microphone using normal speaking voice.

TO RECEIVE:

1. Slide POWER switch forward as in Transmit mode.
2. Select desired frequency by depressing R-F1 or R-F2 button. (Normal working channel is R-F1).
3. Transmit bar must be released in order to receive (transmit light will be extinguished).

OPERATING INSTRUCTIONS FOR DESKON CONTROL UNIT IN SPEAKER-MICROPHONE MODE

FIGURE 1.



Note: With the handset off the hook, as shown above, the speaker is muted, placing the system in the handset mode. This method is recommended for systems operation since background noise is greatly abated. (Figure 1 on the preceding page illustrates the speaker-microphone mode.)

TO TRANSMIT:

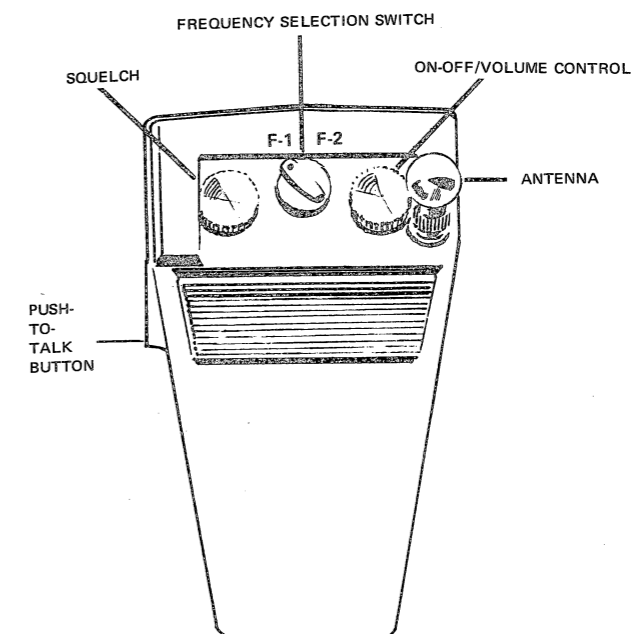
1. Slide power switch forward to "ON" position. Leave in this position at all times.
2. Select desired frequency by depressing T-F1 or T-F2 button, (normal working channel is T-F1).
3. Press TRANSMIT button (red light will appear on control unit when transmit function is selected).
4. Talk into microphone using normal speaking voice.

TO RECEIVE:

1. Slide power switch forward to "ON" as in Transmit mode.
2. Select desired frequency by depressing R-F1 or R-F2 button. (Normal working channel is R-F1).
3. Transmit button on handset must be released in order to receive (transmit light will be extinguished).

OPERATING INSTRUCTIONS FOR DESKON CONTROL UNIT IN HANDSET MODE

FIGURE 2.



Note: A squelch adjustment is made by turning the control knob clockwise until the rushing noise has stopped.

Optimum system performance is obtained if portable unit is held as high as possible and antenna is kept in a vertical position.

TO REPLACE BATTERY, twist battery compartment cover screw 1/4 turn counter-clockwise to "unlock" latch; then remove cover. Lift battery out and insert new battery, making sure exposed contacts face down (into radio). Replace cover, press down on screw and turn it clockwise to "lock" position.

OPERATING INSTRUCTIONS

1. To turn unit on, turn On-Off/Volume control clockwise until switch "clicks". Since no warm-up time is necessary (unit is fully transistorized), operation can commence immediately.
2. Select desired frequency channel by setting frequency selection switch to position F-1 or F-2.
3. Fully extend antenna and hold unit upright in palm of hand with speaker-microphone grille about 2" from lips.
4. To TRANSMIT, press push-to-talk button on side of unit and speak slowly and clearly ACROSS grille area.
5. At completion of transmission, release *push-to-talk button* enabling unit's receiver.
6. While receiving a message, adjust volume control until desired volume is obtained.

OPERATING INSTRUCTIONS FOR FM PORTABLE RADIO

FIGURE 3.

STATE LAW ENFORCEMENT PLANNING AGENCY



A REPORT ON ACTION
GRANT A-1:

THE ALERT SYSTEM

DISSEMINATION DOCUMENT
NO. 4
NOVEMBER 15, 1969

