

# ASSOCIATED POLICE COMMUNICATION OFFICERS

Room 619  
1200 Clark Av.



ST. LOUIS, MO.

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## SPECIAL APCO BULLETIN

It is with great pleasure that this office makes the following announcement:-

During the July convention of the International Association of Chiefs of Police at Atlantic City, New Jersey, three resolutions were adopted which are of extreme interest to the A.P.C.O. The substance of these resolutions follow:

1. The APCO was OFFICIALLY RECOGNIZED and encouraged in its work, by the International Association of Chiefs of Police.
2. The radio committee of the International Association of Chiefs of Police was authorized to act in conjunction with a similar committee of the APCO in dealing direct with the Federal Communications Commission, in matters pertaining to police radio.
3. The recommendations of the APCO as regards intercity communication were approved in their entirety.

Now, in explanation of the effect of these resolutions upon police communication work generally and upon members of the APCO specifically, let us understand each thoroughly. If we were to attempt to publish all the details of the resolutions and recommendations we believe that the article would be too long to hold interest, and we are therefore condensing the information as much as possible without losing the meaning or purport.

With reference to the first resolution mentioned, it is extremely gratifying to know that the Chiefs Association, with its keen investigating ability, has "looked us over" and approved. To those of us who took the first footsteps (tottering, though they were) in the formation of this organization, we are proud of this recognition. It means the perpetuation of the APCO and the continuation of our efforts to cooperate and to keep police communication work on the highest plane of efficiency.

As regards the second of the resolutions, and in further recognition by the Chiefs' Association, it will not be necessary, in the future, for the APCO to place recommendations before the International Association of Chiefs of Police, in convention or otherwise. Its radio committee is authorized to deal directly with the Federal Communications Commission in matters pertaining to police radio, and in conjunction with a committee of two APCO members. We need only to receive the approval of the radio committee of the International Association of Chiefs of Police in presenting problems before the Federal Communications Commission. The capability of the two committees is therefore recognized by the Chiefs' Association and we shall certainly, by our activities, try to continue to warrant this recognition.

Finally, as regards the resolutions approving recommendations regarding intercity communication, we are entering herein the basic recommendations, omitting details. These recommendations are revisions of the original recommendations and have been forwarded to the Federal Communications Commission in their complete form: -

### GENERAL CONCLUSIONS CONCERNING CERTAIN PHASES OF THE COMMITTEE REPORT

There does not appear to be any question as to the need for a nation-wide intercity police communication system. Due to the limited funds available for wire communication and because of the fact that wire communication facilities are not available to all points, it is believed that an intercity radio communication plan should be adopted. In this connection it is pointed out in the report of the Committee on which this report is based, that only a small file of point-to-point traffic will be handled by radio, and considering this fact together with the economy and facility of radio, wire methods of communication can not be justified. Rapid and reliable communication is necessary at all times and must be provided in a manner which will not interfere with the Mobile Police System now in operation. Since most of the intercity traffic will be of a multiple-address character, a single transmission by radio to strategically located police stations will permit immediate delivery thus avoiding the necessity of sending many costly wire messages.

With respect to Objective No. 1 of the report of the Committee, it will be noted that the service to be carried on for intercity police communication shall be classified as an emergency service, i.e., only messages of an emergency nature authorized under the Federal Communications Commission Rule No. 325 shall be exchanged between point-to-point police stations. In this connection it has been recommended that the term "emergency" service not be used. It is not believed that the term "emergency" is fully understood. Any message sent by a police department, although it may not

necessarily relate to safety of life or property, is regarded as an emergency message for the reason that the work performed by police departments is of an emergency character. With this distinction between the terms "emergency" and "safety" it is believed that the recommendation of the Committee defining the service under the Commission Rule No.325 is perfectly proper. It will thus be understood that emergency messages not necessarily of immediate importance to police departments may be handled.

Referring to Objective No.2 of the Committee report, it is recommended that only type A-1 and/or A-2 emission (CW and ICW) be used by point-to-point police stations. This will limit intercity communication to a written record radiotelegraph system. The advantages and disadvantages of radiotelegraph and radiotelephone communication have been considered and are given in detail in a separate section of this report.

The basic plan recommends the assignment of three frequencies primarily for day communication and three additional frequencies primarily for night operation. After careful study of the Federal Communications Commission Rule No.229, which allocates frequencies to services, it is recommended that three frequencies be designated in the band between 2000 and 2100 kilocycles and an additional three frequencies in the band between 2750 and 2850 kilocycles. However, all six of these frequencies should be available for both day and night use, with suitable restrictions being placed on their use so as to guard against interference.

It appears from this study of the Commission's Rule No.229 that frequencies in other bands suitable for intercity police communication are now assigned to aircraft stations, government stations, ship stations, and other classes; therefore, the best possibilities for frequency assignments appear to be in the bands 2000-2100 and 2750-2850 kilocycles which are now assigned to Experimental Visual Broadcast stations. In this connection it is generally believed that Visual Broadcast Stations will ultimately relinquish these frequencies and restrict their operation to the bands above 30,000 kilocycles.

In addition to the Commission's Rule No.229, the Committee has also considered the limitations imposed by the General Radio Regulations annexed to the International Telecommunication Convention of Madrid, 1932, and the provisions of the North and Central American Regional Radio Agreement. Under the former treaty frequencies in the various bands throughout the radio spectrum are allocated to specific services, such as fixed service, mobile service, broadcasting, etc. Under the North and Central American Regional Radio Agreement, certain frequencies are assigned primarily for the use by Canadian stations, while other frequencies are assigned primarily for use by stations in the United States. It is understood that before the United States Government may withdraw frequencies from one service, such as Experimental Visual Broadcasting, it will be necessary to consult with Canada. However, inasmuch as police radio is rapidly developing in Canada, and because of the possibility of International intercity communication it is believed that an agreement may be reached providing for the allocation of frequencies as recommended above, namely, in the bands 2000-2100 kilocycles and 2750-2850 kilocycles.

With reference to Objective No.5, stating that the frequencies to be designated should be capable of providing reliable communication when a reasonable amount of power is used, over a path of at least 250 miles, it is recommended that the figure 250 be used only as a guide and that wherever cities are situated at distances greater than 250 miles from the nearest point-to-point police station they be permitted to communicate with one another.

With respect to Objective No.6 of the Committee report, it is desired to emphasize the importance of requiring that police communications be handled free and that no rate or other charge be imposed. This is important for the reason that the service is private in nature and is not intended to compete with any commercial system.

In connection with Objective No.7, it was originally believed that a separate transmitter should be used for intercity communication. However, after thorough study, the Associated Police Communication Officers is now of the opinion that the main transmitter licensed for operation as a municipal or State police station, should also be available for a license under the classification of point-to-point police station, provided that such use shall be secondary in nature and will be restricted to times when the equipment is not needed for mobile service. Of course, it is to be clearly understood that such secondary use of the transmitter for point-to-point communication must be on the frequencies assigned for point-to-point service. This will require modification of the equipment so as to provide additional frequencies and the necessary means for radiotelegraph emission.

In Objective No.8 it is recommended that certain rules of the Federal Communications Commission shall be applicable to point-to-point police stations. Aside from the discussion which has already been given above with respect to certain of these regulations, it is desired to discuss briefly certain other provisions of the rules.

It is admitted that the power required by point-to-point stations bears no relation to population. However, the Committee recommended that Rule 329 serve as the basis for allocating power because "key" stations, hereinafter referred to as zone central stations, are to be designated for clearing interstate traffic, and only the larger cities will be eligible for such designation. This appears to be a logical assumption for the reason that the largest city will be expected to handle the largest file of traffic and hence should be designated as the "key" for its particular state or zone. There will be cases where two or more large cities are licensed as point-to-point police stations in the same state. In these cases, it is believed that the first applicant for a point-to-point police station license should be designated as the "key" for that particular zone or State. In other words, the power allocations in Rule No. 329 appear to work out according to natural restrictions, preference being given to the largest city in any given area.

Attention is invited to the fact that Rule No. 329 does not now apply to State police stations as such, but when a State police station applies for a point-to-point police station license, it will be applicable to that particular class of station. Since State police stations are normally expected to communicate over long distances, it would appear that they should be given preference as "key" stations over an application in the name of a municipality. Therefore, it is recommended that the licensee of any State police station who applies for a point-to-point police station license be authorized the maximum power provided under Rule No. 329.

Rule No. 330 is made applicable to point-to-point police stations in order that the small isolated municipality which would not be entitled to high power under Rule No. 329 might apply for adequate power to communicate with the nearest point-to-point police station.

Referring to Rule No. 333, it is recommended that frequencies be assigned to zones and that in establishing zones the zone boundaries should, insofar as practicable, coincide with the State boundaries. Exceptions to this rule would be in the case of small States, such as Rhode Island. There are several reasons why this plan is desirable. Police departments in the same State are more closely connected and associated because:

- (a) All police departments of the same State are organized on the same general plan and operate under the same laws.
- (b) Extradition laws and differences in laws of adjoining States would tend to isolate some departments were zones to include territory outside of single State boundaries.
- (c) The bulk of police communication will be intrastate, consisting mainly of information pertinent to the State in which the crime is committed.

Rule No. 338 is made applicable to the intercity plan for the reason that in a given area one city may provide service to contiguous municipalities, thus obviating the necessity of each city within a small area maintaining its own independent facilities.

With reference to Rule No. 348 requiring licensees to maintain adequate records of the operation of the station, including hours of operation and the nature of each transmission, the question has arisen a number of times as to whether or not officers may arrest the wanted person on the strength of a radiogram, the warrant being in the possession of the originating department. It is believed that if the term "adequate" in the Commission's rule is interpreted by all departments to include any information of vital importance in crime apprehension work, it would be impracticable and unreasonable to expect the originating department to send a confirmation copy to every department which might contact the subject.

In this connection it will be of interest to know that the Attorney General of the State of Michigan rendered the following opinion on April 15, 1935:

"...We are of the opinion that any law enforcement officer would be justified in making an arrest in cases of felony, upon receipt of a radiogram or communication by police broadcast, provided the broadcast is made in accordance with the rules of the Federal Communications Commission."

By rules of the Federal Communications Commission the Attorney General no doubt had in mind the provisions of the Commission's Rule No. 348 with respect to stations maintaining adequate records.

#### COMMUNICATION ORGANIZATION

Referring to Objective No. 9, the Association has studied several possible communication plans. Of these the following are recommended for study with the request that the Federal Communications Commission work out the final details in cooperation with representatives of the Associated Police Communication Officers and International Association of Chiefs of Police.

PLAN NO.1

This plan involves the use of a zone control station in each State or zone and the use of secondary stations hereinafter referred to as Class B stations. Stations handling inter-zone communications shall be known as Zone Control Stations, while stations within the same zone, or State, other than the Zone Control Station will be known as Class B stations.

The zone control station should be located as near as possible to the geographical center of the zone. In practically all cases this is true of the capital city of the State and for this reason and because of the availability of complete records it is believed that whenever possible the capital city of the State should be the zone control station. Also the capital city is usually a large city, or the location of a State police radio station and would have additional radio facilities to handle the greater volume of communication work that would fall to the zone control station.

If day and night frequencies are to be assigned as such, the zone control station would ordinarily maintain a continuous watch on three frequencies simultaneously; two for inter-zone communication and a third for intra-zone communication, or some other combination depending upon which one is found to be most suitable.

The zone control station should control all communications between Class B stations within its own zone. All Class B stations should be required to relay traffic through the zone control station where reliable communication from one Class B station to another is not certain. In any case it is believed that all Class B stations should request and obtain permission to transmit from the zone control station, before attempting to communicate with other stations within the zone.

The zone control station should act as an intra-zone "radio central" merely making intra-zone contacts between Class B stations in the same zone that desire to communicate directly with one another, thus eliminating intra-zone relays. This would reduce time on the air to a minimum as compared with the time necessary to relay each message through the zone control station. However, Class B stations should be required to route, in all cases, through the zone control station any messages destined for transmission outside of their immediate zone. When messages are for transmission to stations within their immediate zone, the zone control station should have authority to decide whether Class B stations are permitted to contact each other directly or relay their traffic through the zone control station. This will depend upon experience and good operating practice.

Except when otherwise authorized by the zone control station, all inter-zone contacts and messages of an inter-zone nature shall be handled between zone control stations only.

PLAN NO. 2

This plan is substantially in accord with the preceding one except that it is desired to submit for consideration the following suggestions with respect to the assignment and use of frequencies.

Since it has been recommended that six frequencies be provided for intercity communication, and inasmuch as these frequencies appear in bands widely separated in frequency from one another, it is believed that three groups of frequencies may be designated as follows: Group No.1 would consist of one frequency in the 2000-2100 kilocycle band and one frequency in the 2750-2850 kilocycle band, which would be used for calling purposes only. Group No.2 would consist of two frequencies selected from the same bands and to be used by Class B stations for intra-zone working purposes only. Group No.3 would consist of two frequencies selected as in the case shown in Groups Nos.1 and 2 above, which would be used by zone control stations for inter-zone working purposes only.

There are still other possibilities; for example, only one frequency, preferably in the band 2750-2850 kilocycles, need be designated for calling purposes, thus permitting the assignment of the other five frequencies to individual zones. If this system is adopted, intra-zone as well as inter-zone communication would be carried out on the same frequency.

As an additional suggestion, consideration should be given to the possibility of using any, or all frequencies for calling as well as working purposes. If, for example, the States of Michigan and Indiana are considered to be in separate zones and Lansing and Indianapolis are considered as zone control stations, an exclusive frequency would be assigned to Michigan and a separate exclusive frequency to Indiana. All inter-zone as well as intra-zone communication would be carried out on the respective zone frequencies. The other four frequencies not mentioned would be assigned to the next adjacent zones for use in the same manner as described for Michigan and Indiana. Obviously, after all six frequencies are assigned it will be necessary to duplicate them in the next six zones and follow on in this manner for the entire United States. This plan, however, would not be satisfactory unless additional frequencies are provided so as to make it unnecessary to duplicate assignments in adjoining States.

To summarize, it is believed that a plan requiring the use of a calling frequency is most desirable; otherwise, it will be necessary for zone control stations to maintain a listening watch on each frequency, utilizing six receivers for this purpose.

### OPERATING PROCEDURE

In Objective No.10 of the committee report it is recommended that for the purpose of uniformity an operating procedure be specified in the rules and regulations of the Federal Communications Commission and that the procedure be made as simple as possible and at the same time provide for an efficient and rapid means of communication.

The Committee has given considerable study to this problem and believes it to be of great importance. It is necessary that the procedure be simple and that a standardized system be provided and that the license be issued contingent upon strict adherence to the procedure to be promulgated by the Commission.

In order that these stations may communicate with one another with a minimum amount of transmission and consequently a minimum of interference to other stations working on the same frequency, a form of procedure symbols that have predetermined meanings should be used. An ideal system of procedure symbols are those in use by the U.S. Navy, which, if necessary, may be modified for police use.

### INTERNAL ORGANIZATION

The internal organization of each department should provide for:

1. Sufficient personnel to handle the work efficiently at all times.
2. Maximum rapidity of handling of messages. -- Some standard system must be adopted so as to provide the following copies of messages: Action, information, relay, file. The system of internal routing must provide for prompt messenger service and the redrafting of messages for retransmission.
3. Quick routing and action in emergency cases. -- Messages must be handled as rapidly as possible from the receiving point to the action official.
4. Designation of action officials, at least one of whom shall be on duty at all times. -- The "book" of an original and at least one copy, originally prepared at the receiving station, should provide a distinctive color for the action official. Other copies may also be of distinctive color if desired.
5. Prompt action, including acknowledgment if required. -- Form acknowledgment may be prepared in advance for the various classes of messages which may require acknowledgment. If necessary, the forms may provide suitable blank spaces, thus requiring a minimum of typing.
6. Dissemination of information. -- The proper dissemination of information requires that the central office be prepared at all times to provide a large number of officials in the organization who may be interested in the contents of a message, with copies. If necessary, suitable duplicating apparatus should be provided.
7. Coding personnel for confidential and secret reports. -- It is possible that certain dispatches will be classed as "secret" and may be coded only by higher officials. Other dispatches will be classed as "confidential" and may be coded by personnel on watch, such as the supervisor or other person.
8. Preservation of secrecy. -- It is of utmost importance that the personnel be trained concerning the care necessary in handling confidential and secret matter.
9. Efficient recording and filing which does not delay delivery to action personnel. -- Every effort should be made to simplify the system and reduce the work required in connection with this subject to a minimum compatible with the keeping of adequate records for quick reference.
10. Instruction and training of personnel. -- A radio installation involves a considerable amount of intricate material, but the real basis of communication remains a matter of operation. In any activity where operation is the basic feature the instruction and training of personnel becomes a most important factor in efficiency.

### DISPATCHING SYSTEMS

Considerable variation will be necessary for dispatching all sections of a State or zone or the whole United States. Suitable maps should be provided for headquarters use on which the United States and sub-divisions thereof are divided into zones and the zones into districts.

Each zone should correspond with the area to be covered by the zone control station, and the channels of communication, both for interzone and intra-zone communication, should be plainly marked by drawing connecting lines between stations.

Means may be provided on each map so that the dispatcher may determine the routing with the least possible delay. For this purpose it is recommended that colored tacks be used to distinguish the zone control stations from the Class B stations. In addition the colored tack system could be broadened to show at a glance certain vital information concerning the hours of watch for each station, the time schedules for important broadcasts and other important data.

### PUBLICATIONS

It is recommended that the Associated Police Communication Officers issue a Handbook for the information and guidance of all persons connected with police communication matters, which shall include the following information:

- (1) A standard message form for use by all police departments.
- (2) A simple code for service dispatches relating to corrections, repetitions, etc.
- (3) A standard arrangement of the context of messages, (for example, name and description of missing person might be transmitted as follows: Name, age, height, weight, physical characteristics, clothing; if car used, the license, make, description and motor number. This information would actually be transmitted in the text of the message as follows: John Brown 28-5-9-165 medium build brown eyes dark hair dark suit light hat Mich.35 lic.W 2605 Ford S 35 blue red wheels 2345678 may go to Indiana).
- (4) A standard record system for logging the operation of the station.
- (5) Other important records in accordance with the uniform crime reporting system sponsored by the International Association of Chiefs of Police.

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It will be observed that much time and effort has been exerted in compiling the above recommendations. The chairman of the intercity committee has, insofar as possible, coordinated the ideas of communication officers, not only of the APCO, but of non-members as well. A great majority of the letters received indicated that communication officers recognized the need for some reliable means of intercity communication, to replace the present systems. Some letters produced constructive criticism, while a few indicated absolute opposition.

Two main reasons were given by those who do not approve of the plan, as follows:

1. Cost of apparatus. This reason appeared most frequently, and in order to minimize the cost for such changes, the final recommendations provide that the PRESENT transmitters may be used, if frequency-changing equipment is provided. It is our plan to request manufacturers of police equipment to check into and submit recommendations as to the best and least costly methods of installing band-switching equipment in transmitters which they have sold to police departments. If you will address communications to Capt. Robert L. Batts, radio supervisor, Indianapolis, Indiana, police department, any request for information along these lines will be given prompt attention, regardless of whether you are a member of the APCO or not.

In cities where the number of radio transmissions to local receivers is such that interference would serve to detract from local efficiency, if the present method of intercity communication would continue, or if the band-switching method mentioned above, were utilized, we plan on having all available information regarding c.w. apparatus that it is possible to accumulate. Really enterprising communication officers can, we believe, overcome this obstacle very easily.

2. Lack of operators who understand code. We can appreciate that there are a great number of operators now employed by departments, who do not understand code. However, the recommendations will not, if they are finally approved, become effective in a week or a month. Ample opportunity will be given operators to learn code and the examinations, we are informed, will not be comparable to those of commercial operators. Present radio-telephone operators may rest assured that every means will be exerted in their behalf if they wish to learn code.

If we but bear in mind the fact that of all police facilities, the communication system is probably the most important, we will not conscientiously sit back and be content to idle along. We now have an opportunity to broaden the scope of police effectiveness by establishing a continuous day and night system of reliable communication. It is up to the individual communication officer to exert himself for the betterment of his department. One or two stations can not comprise a network, but with the combined efforts of each officer we WILL form and maintain a network which will mark a long step in the advancement of communication work.

The APCO is a cooperative association devoted exclusively to police communication work. Police officials who have denied communication officers the privilege of belonging to this association because the purposes and aims of the APCO had not been investigated, need no longer feel dubious about permitting communication officers to join. They need only communicate with the secretary of the Chiefs' Association for confirmation of recognition.

We earnestly suggest that communication officers become members of the APCO immediately. Dues are \$2.50 per year, and no initiation fee. Full information will be forwarded upon request, and a convention will be held at Indianapolis, Indiana, October 7-10th inclusive. The regular August bulletin will be forwarded to APCO members in the next few days, giving fuller details.

Sincerely,

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