

GROUP ALERTING SYSTEM DESCRIPTION

	CONTENTS	PAGE
1.	GENERAL	1
2.	EQUIPMENT	5
	A. Control Station	5
	B. Local Central Office	5
	C. Second Central Office	5
3.	REQUIREMENTS	5
	A. Lines	5
	B. Trunks	5
	C. Power	6

1. GENERAL

1.01 This section provides a general description of the Group Alerting System which includes facilities for simultaneously signaling a group or several groups of subscribers for the purpose of disseminating an alert message.

1.02 The alerting system is intended to be used in local dial offices and is arranged for No. 1 or No. 5 crossbar, panel, or step-by-step switching. Basic and expanded systems are available offering sufficient latitude in choice of equipment, configuration, and capacity to meet individual requirements.

1.03 The alerting system is provided for use by such groups as volunteer firemen, civil defense groups, or others requiring quick and simultaneous dispatch of oral or recorded messages. (See Fig. 1.)

1.04 During nonalert periods, subscriber telephones are connected to normal service lines at the central office. Lines serving DATA-PHONE subscribers should be excluded from the system.

1.05 One-way voice transmission is provided from a control station or alternate control station to a selected group of telephone sub-

scribers mutually connected to the system through one or more central offices. (See Fig. 2.)

1.06 Using a basic alert system, oral announcements are made during the alert period from a telephone at the control station.

1.07 Using an expanded alert system, an oral announcement is made initially from a telephone at the control station and then, by operation of controls at the telephone set, the announcement will be automatically repeated from an announcement set during the alert period. An alternate control line may be provided to ensure service if the regular line fails. As many as three control stations (two alternates) may be connected to the system. All must be served by the same central office. A test and monitor line from the central office to each control or alternate control station may be provided.

1.08 Subscriber telephones receive a distinctive ringing signal which informs the subscriber that an alert condition exists. An alert warning tone may be provided optionally, which will inform the subscriber on the busy line that an alert condition exists and that, by terminating his existing call and again raising the receiver, he will receive the alert message (if done during the alert period).

1.09 An alert may be initiated at the control station by dialing a single digit from the control telephone. Central office equipment will select, connect, and ring the proper group of subscribers. Additional groups may be alerted by dialing additional digits corresponding to the selected groups. One digit may be reserved for an all-groups alert.

1.10 Alert announcements and connections will be automatically terminated by timing circuits in 3, 5, or 8 minutes, as determined by wiring options, unless otherwise terminated or extended from the control station. An alert may be terminated before being automatically timed

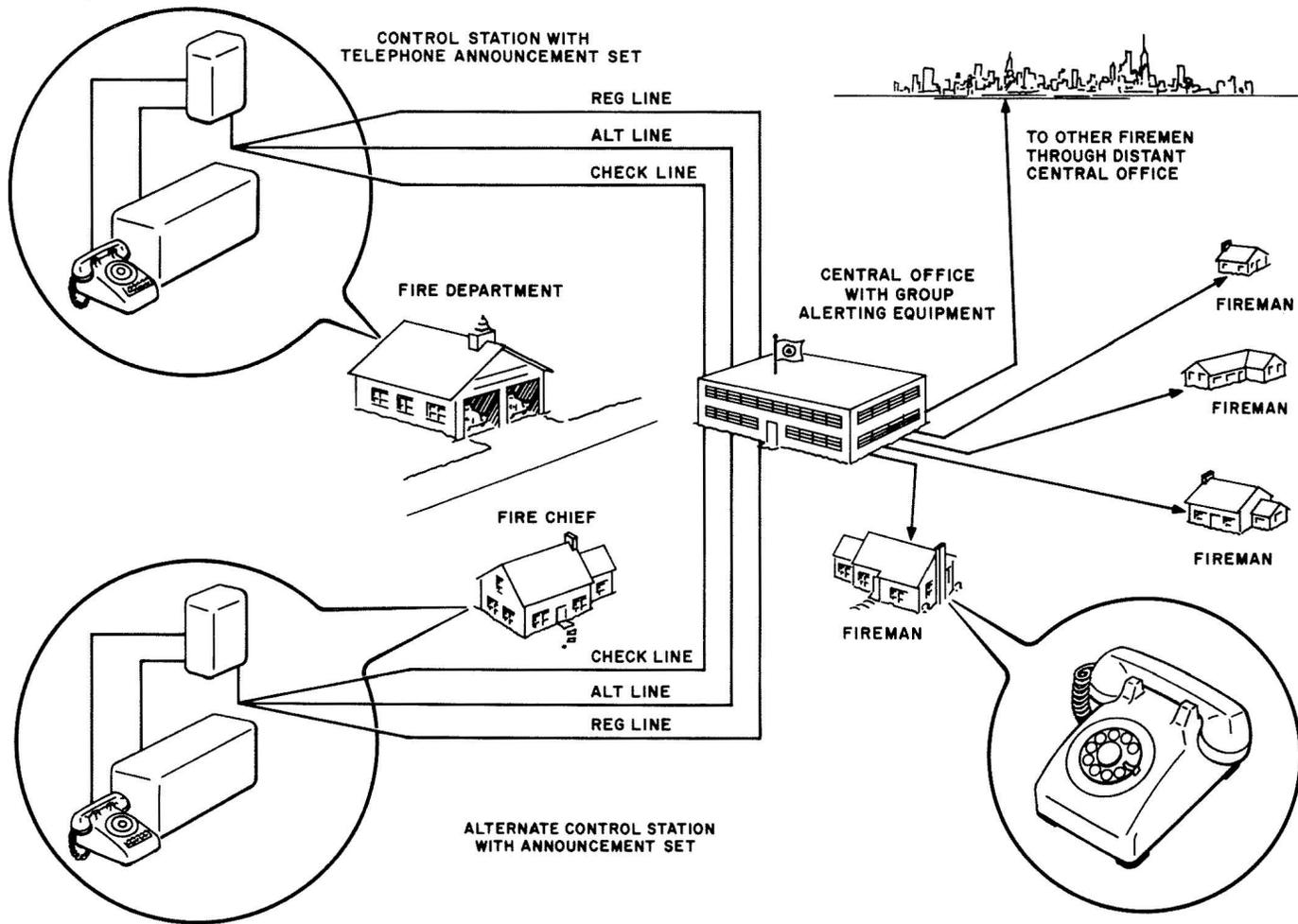


Fig. 1 — Typical Group Alerting System

out by dialing the digit 0 from the control telephone. An alert may be extended by redialing the previously dialed digit(s) from the control telephone before the alert is automatically timed out.

1.11 When an alert condition is initiated from one control telephone, any additional control telephones will be locked out at the central office and will receive a busy tone to indicate the lockout conditions.

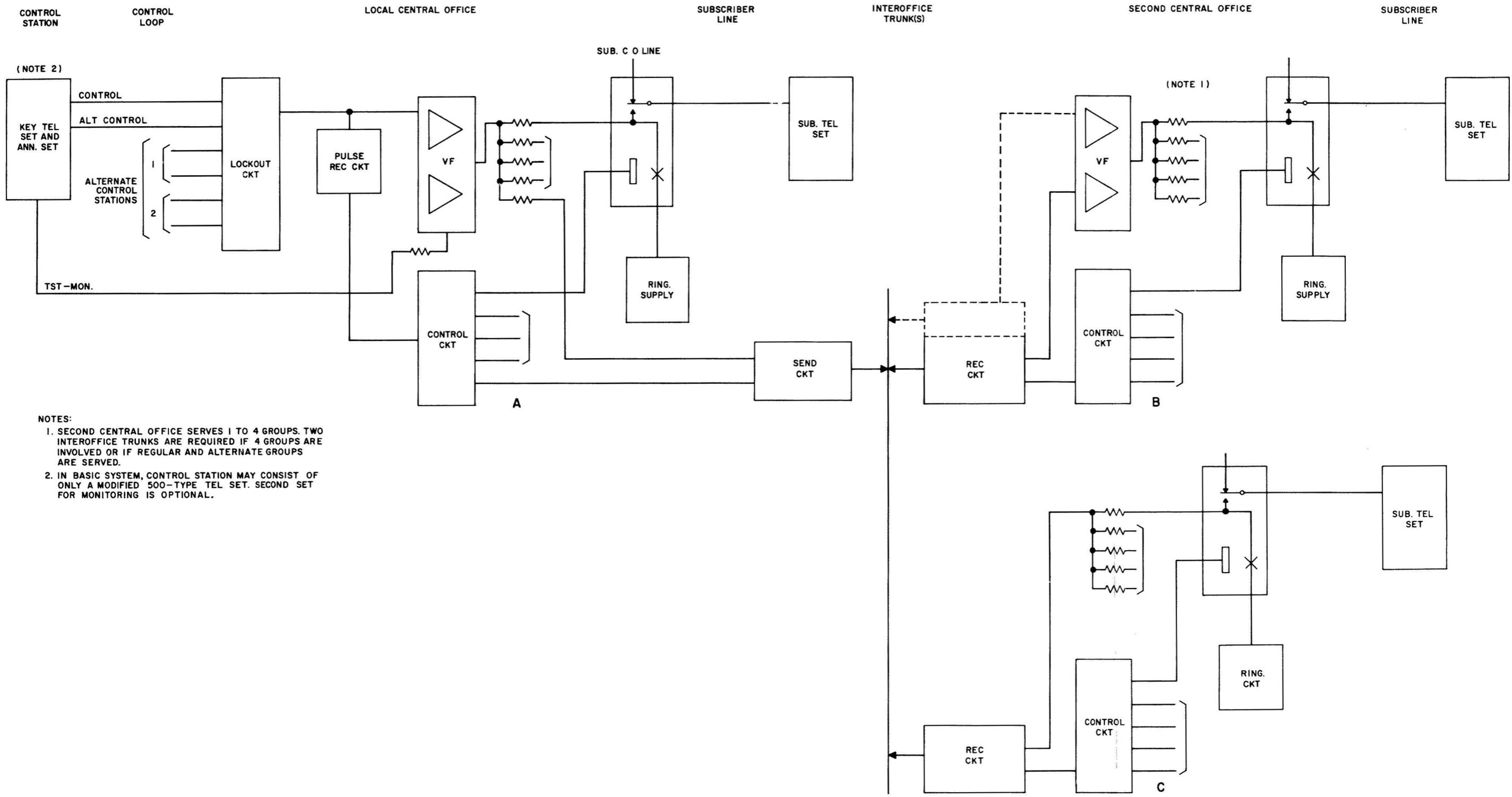
1.12 One digit is reserved for connecting a test and monitor circuit whereby the normal functioning of the system may be tested and monitored from the control stations.

1.13 Control loops are under continuous test. An open loop will produce an alarm condition at both the central office and the control station.

1.14 Failure of the selecting and ringing circuits to function will produce an alarm condition at both the central office and at the control station.

1.15 Up to 480 telephone subscribers may be connected to the system. When interoffice trunks are employed, this number is reduced by eight subscribers for each interoffice trunk connected.

1.16 The connected subscribers may be arranged in up to eight groups. Any subscriber may be cross-connected to more than one group. The group will normally be identified by the digits 1 through 8. One of these digits may be reserved to produce an all-group alert. The digit 9 will normally be associated with a ninth group which is reserved for testing and monitoring functions. Simulated alerts are initi-



NOTES:
 1. SECOND CENTRAL OFFICE SERVES 1 TO 4 GROUPS. TWO INTEROFFICE TRUNKS ARE REQUIRED IF 4 GROUPS ARE INVOLVED OR IF REGULAR AND ALTERNATE GROUPS ARE SERVED.
 2. IN BASIC SYSTEM, CONTROL STATION MAY CONSIST OF ONLY A MODIFIED 500-TYPE TEL SET. SECOND SET FOR MONITORING IS OPTIONAL.

Fig. 2 — Typical Group Alerting System Block Diagram Showing Optional Features and Interoffice Arrangements

ated to this group for testing purposes and monitored from the control station.

1.17 When subscribers are connected to the system through a second central office, these subscribers may be associated with as many as four groups. These four groups may be complete in themselves or may be parts of four groups connected to the local central office.

1.18 The references listed below supply information supplementary to this section.

AA388.106 — Group Alerting System, Common Systems

480-310-100 — Group Alerting System, Station Apparatus, Identification

480-310-200 — Group Alerting System, Station Apparatus, Installation and Maintenance

480-310-400 — Group Alerting System, Station Apparatus, Connections

2. EQUIPMENT

A. Control Station

2.01 In its basic configuration the control station may consist of only a modified 500-type telephone set connected to the control circuits at the central office. No other service is connected to this set. Announcements are repeated orally during the alert period.

2.02 An expanded configuration consists of a modified 565GBR key telephone set, a 53A control unit, and a KS-16756-L1 announcement set. Six illuminated keys on the 565GBR telephone set provide controls for selecting regular and alternate control loops for announcements or automatic reproductions and for visual check and alarm conditions.

B. Local Central Office

2.03 Pulse register, group selecting, group ringing, timing and alarm circuits are contained in local central office equipment. Two voice-frequency amplifiers are furnished. The amplifiers are connected in parallel, with combined inputs from control and alternate control

loops (providing a backup unit) or may be connected independently in two control loops. (See Fig. 2A.) Amplifier failure is not alarmed.

2.04 Operational tests may be made at the central office using a dial handset connected to the control loop.

C. Second Central Office

2.05 Control circuitry at the second central office is similar to that at the local office and is under the control of the local office. Ringing supply is provided from the central office to which the subscriber is connected. Where the second central office is located in the same general area as the local control office, and the number of subscribers is not too large, the second central office lines may be served without amplification. (See Fig. 2C and Note 1.) Where the second central office is located at a distance, either the interoffice trunk losses or the number of subscribers to be served may make amplification necessary. (See Fig. 2B.) If four groups of subscribers are served from the second central office or if two groups are served and one is a regular group and one an alternate group, two interoffice trunks are required. If two interoffice trunks are used, one amplifier will be connected to each trunk.

3. REQUIREMENTS

A. Lines

3.01 Control loops are constructed to the transmission standards for subscriber loops having an external loop resistance of not more than 1300 ohms. There are no requirements on subscriber lines other than that they meet good exchange transmission design. Subscriber lines may be individual (private) lines or may be selective or semiselective party lines. Only one telephone will be signaled, however, on any line.

B. Trunks

3.02 Interoffice trunks are standard local loaded or nonloaded trunks. The length of each trunk will determine whether amplification is required at the distant office. Backup trunks must have absolute delay and loss characteristics essentially identical to those of the primary trunks.

SECTION 310-530-100

C. Power

3.03 Commercial ac power will be required at control station for the announcement set, when provided. Relay equipment is designed to operate from the -48 volt station supply. At a control station 48 volts is generally obtained from the announcement set.

3.04 The central office amplifiers are transistorized and operate from the -48 volt central office battery.

3.05 Timing circuits for ringing and check signals operate from the central office -48 volt battery.

3.06 Ringing supply requirements will depend on the number of subscribers to be served. Small requirements are furnished from the central office supply. Larger loads require an 801E ringing plant.