SAC MAIN OPERATING BASE TURRET

GENERAL DESCRIPTION

CONTENTS PAGE

1. GENERAL

1.01 The SAC main operating base turret described in this section was developed for the Strategic Air Command (SAC). This system provides a turret with centralized communication facilities to replace existing 112A key equipment bomb wing packages.

The Strategic Air Command with headquarters at Offutt AFB, Nebraska, includes two Numbered Air Force Headquarters, Wing Command Posts, and Dispersal Bases (Satellite Bases). All bases are connected to Offutt AFB and the respective Numbered Air Force Headquarters by a private line voice alerting network called the Primary Alerting System (PAS).

The SAC main operating base turret includes the Primary Alerting System components currently present at every SAC base. It also provides access to AUTOVON, UHF radio, 4-wire and 2-wire private lines, central office or PBX lines, a Duress Warning Alarm System, SAC Telephone Network, and the klaxon alerting circuit. This equipment allows the attendants to originate, answer, hold, record, and conference selected lines.

1.02 This section is issued to provide familiarization material for Telephone Company personnel associated with the maintenance and operation of the system.

1.03 This issue of the section is based on the following drawings:

SECTION	TITLE
SD-1G258-01, Iss 4B	Attendant Telephone Circuit
SD-1G259-01, Iss 3	Pickup Key and Relay Circuit
SD-1G260-01, Iss 3B	Radio Control Circuit
SD-1G261-01, Iss 4A	Conference Control Circuit
SD-1G262-01, Iss 5B	2-Wire Private Line Circuit
SD-1G263-01, Iss 3	4-Wire Private Line Circuit
SD-1G264-01, Iss 3A	Signal Circuit
SD-1G266-01, Iss 4A	CO or PBX Line Circuit
SD-1G285-01, Iss 1	Loudspeaker Panel Control Circuit
SD-1G123-01,Iss 5B	Power Supply Circuit
SD-96595-01,Iss 4B	Conference Bridge Circuit
SD-69343-01,Iss 4B	Voice-Controlled Switch

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SECTION	TITLE
SD-69365-01,Iss 3A	Duress Alarm Circuit
SD-1G117-01,Iss 10B	Base Alerting Circuit
SD-69346-01,Iss 9	Loudspeaker Monitor Circuit
SD-69358-01,Iss 11B	Loudspeaker Line Circuit for Receiving Alarm Messages
SD-69543-01, Iss 6	4-Wire Central Office Line Circuit (AUTOVON).

If this section is to be used with equipment or apparatus reflecting later issue(s) of the drawings, reference should be made to those SDs and CDs to determine the extent of the changes and the manner in which the section may be affected.

1.04 For SAC Main Operating Base Turret Method of Operation, refer to Section 480-520-301. For SAC Main Operating Base Turret, Line-up and Overall Tests, refer to Section 480-520-501.

1.05 For Private Line Telephone Service SAC Primary Alerting System Description, refer to Section 310-500-100. For Private Line Telephone Service SAC Primary Alerting System Tests and Adjustments, refer to Section 310-500-500.

2. TURRET EQUIPMENT

2.01 The SAC main operating base turret is composed of ten positions having sloping front panels and plug-in cables from the rear to a cross-connection field in the equipment room (see Fig. 1).

2.02 The ten positions are grouped into three sections assembled as follows:

- Center section J1G026B (two positions) contains the two red telephones, lamps, keys, and loudspeakers connected to the Primary Alerting System.

- Two side sections J1G026A (four positions each). Each side section is identical and provided with four special panel telephones. Each position has a G5T handset of a different color.

2.03 The left handset color of each side section is gray and the keys control the UHF radio circuits. Second from the left is the green conference control handset and keys. Third from the left is the blue handset for access to emergency points, and at the right side of each section is the yellow handset for base service, AUTOVON service and operations.

2.04 Green and blue handsets have an associated panel-mounted rotary dial, the yellow handset has a TOUCH-TONE® dial, and there is no dial for the gray handset.

2.05 The assembly of the ten positions is approximately nine feet long and is intended for mounting on a customer-provided table.

2.06 Two types of attendant circuits are available; one for use with the radio control panel and the other for use with the other main operating base turret panels. The radio panel telephone circuit is 4-wire. The others may connect to 2- or 4-wire circuits.

3. ENGINEERING INFORMATION

3.01 The engineering design requirements of this system are contained in Section 811-101-152 (J1G026). The Primary Alerting System is covered in Section 811-101-150 (J1G011).

3.02 The necessary common switching equipment for the turret is mounted on seven-foot bays in the equipment room. They are:

- ***Main Operating Base Control Bay:*** This bay contains local control equipment for the main operating base, with the local service units miscellaneously mounted and cross connected, as required.

- ***Base Alerting Bay (J1G011):*** This bay contains the equipment required for the Primary Alerting System.

- ***Standby Battery Bay (J1G011):*** In those locations where the customer has requested back-up battery supply, this bay can be used to provide a rectifier and storage batteries.

4. PRIMARY ALERTING SYSTEM

4.01 The Primary Alerting System is a voice alerting network designed specifically for alerting the Strategic Air Command striking force quartered at bases throughout the world. The

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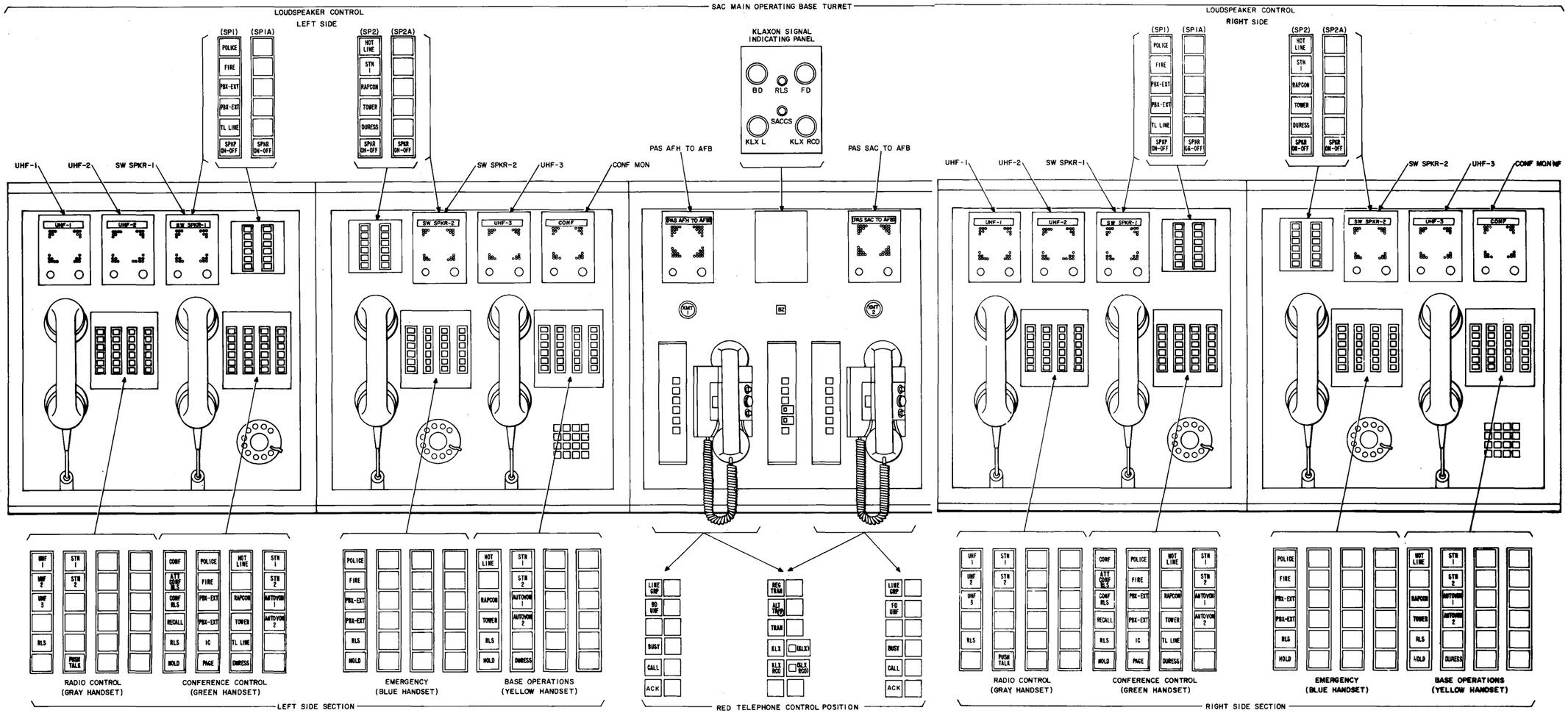

Fig. 1—SAC Main Operating Base Turret (Front View)

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system is a network of 4-wire circuits connecting the Strategic Air Command main control point (SAC) at Offutt Air Force Base with each of the Numbered Air Force Headquarters (NAFH and the associated Air Force bases and missile complexes). (See Fig. 2.)

Each Base Command Post in the PAS is connected directly to the Strategic Air Command control point by a 4-wire circuit. This direct circuit to a base is known as a "front door circuit". Each base is also connected by another 4-wire circuit to the Numbered Air Force Headquarters with which it is associated. This direct circuit to a base is referred to as the "back door circuit". Two 4-wire circuits interconnect SAC and each Numbered Air Force Headquarters. They are referred to as the "regular" and "alternate backbone circuits."

4.02 As shown in Fig. 2, three types of base installations are encountered. Bases which handle aircraft operations usually have a single command post which, in the Air Force Administrative organization, is at the "Wing" level. Both the front door and back door circuits terminate directly in the Wing Command Post with two-way service provided on both circuits.

In some cases, PAS service is provided at locations not normally occupied by SAC. These locations, often called Satellite or force Dispersal Bases by the Air Force, may include bases occupied by other Air Force Commands (TAC, ADC), or Naval or Marine Corps Air Stations. Termination arrangements are essentially the same as for a Wing Command Post. PAS messages may also be coupled to facilities furnished by the customer.

4.03 An alert can be initiated by SAC directly to all NAFHs and bases or from any NAFH to its associated bases. In the case of a SAC alert, each base will also receive the alert through its own NAFH. The klaxon horns at the bases can be sounded remotely from SAC or NAFH, or controlled locally by base personnel.

4.04 All PAS circuits are available for point-to-point message use during nonalert periods. Each receiving line at a base is equipped with a loudspeaker (modified for a minimum volume setting), a recorder, and a telephone handset. At each NAFH, the receiving lines from SAC are similarly equipped. Point-to-point service is automatically pre-empted when an alert is initiated.

4.05 Each 4-wire line in the PAS is equipped for continuous continuity checking. SAC transmits a continuity check pulse to NAFH (backbone circuit) or the Base (front door circuit), and NAFH transmits check pulses on its back door circuit to each of its associated bases. In both cases, the outgoing pulse is transmitted from a common generator through the alert bridges to all lines. The continuity check pulses are repeated at NAFH and the bases on a loopback arrangement to a check pulse receiver at the source (NAFH repeats back to SAC and the base repeats front door pulses back to SAC and back door pulses to NAFH).

Any loss of check pulses for more than 20 seconds will result in a visual and audible alarm at the check pulse source (SAC or NAFH).

4.06 The pulses required for the continuity check, as well as pulses for signaling and control functions, are transmitted over each line by 43A1 voice frequency telegraph carrier channel units. The carrier equipment operates in a frequency slot near the upper end of the voice band. The 43A1 carrier transmits pulses by frequency shift keying its midband carrier frequency up or down 35 Hz. As used in the PAS, however, the 43A1 unit only transmits tone during a pulse. Filters are provided in the PAS circuits to prevent the 43A1 tones from passing through the telephone sets or loudspeakers and being audible to the attendants. As shown in Fig. 3, a midband frequency of 2635 Hz is used from SAC to each NAFH and base and from each NAFH to its Wing, Missile Complex, and Alternate Command Posts. A midband frequency of 2465 Hz is used from Wing Command Posts to SAC and NAFH, from Missile Complex Command Posts to NAFH and NAFH to SAC.

4.07 Three forms of pulses are used for various functions and are designated as "slow," fast," and "long" pulses (see Fig. 3). Slow pulses, used for all continuity checking, are pulses of 270-millisecond duration transmitted at a rate of one every three seconds. Fast pulses, used to perform functions at the start of an alert and for the acknowledgment of an alert, are 100-millisecond pulses at a 5 pulse-per-second rate. Long pulses of 1.5 seconds duration are used during nonalert periods for call-in signaling from the bases to SAC or NAFH. A fast pulse followed immediately by a long pulse is transmitted from SAC to NAFH to

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the bases to actuate the klaxon horns by remote control. The fast-long pulse combination is referred to as the "horn signal." Point-to-point signaling during nonalert periods in the direction from SAC or NAFH to a base, or SAC to NAFH is by voice over the loudspeaker.

4.08 An alert may be established either from SAC to all NAFHs and bases or from any NAFH to its associated bases. At SAC and at each NAFH, the senior controller console is equipped with ALERT and KLX key and two red alert handsets which are connected to the input of an alert bridge by hybrid coils. The transmitting side of each outgoing circuit is permanently connected to the output of this bridge.

4.09 To initiate an alert condition, the attendant at the Senior Controller console at either SAC or a NAFH selects a red instrument and operates a nonlocking ALERT key. This performs the following functions:

- A distinctive (900 + 1400 Hz warble) alert warning tone is connected to the input of the bridge as long as the key is held operated. This warning will be heard by all parties using any of the circuits for point-to-point use and at all receiving loudspeakers.

- A 3-second fast pulse control signal is transmitted from the originating location.

4.10 On the release of the alert key, the verbal alert message is transmitted and an acknowledgment is requested. Each point receiving the message can acknowledge by operating a nonlocking ACK key. The operation of the ACK key will send out a 3-second fast pulse signal from the base to SAC or NAFH or from NAFH to SAC. Receipt of this signal will extinguish the acknowledgment lamp associated with the base or NAFH.

Where a second location is served from the same base terminating equipment, the ACK keys are interlocked and both must be operated to send out the fast pulse acknowledgment signal.

4.11 Certain bases are provided with an audible alerting system of klaxon horns. When actuated, this alerting system operates the horns through three cycles of 30-seconds ON and 15-seconds OFF.

4.12 Both SAC and NAFH can remotely actuate the klaxon horns by momentarily depressing the KLX key on the controllers console. The KLX key triggers the fast and long pulse generators to send a horn signal. Since the first segment of the horn signal is identical to the alert condition, operation of the KLX key also initiates an alert condition. When an alert is initiated from the KLX key, a timed alert warning tone is transmitted for three seconds coincident with the 3-second fast pulse segment of the horn signal.

5. RED TELEPHONE CONTROL POSITIONS

5.01 The center panel of the main operating base turret is identified as the red telephone control position. It is associated with the Primary Alerting System (PAS).

5.02 The position is provided with two special 4-wire red telephones with associated keys and lamps. The left hand telephone (facing the position) is terminated on the B/D (back door) circuit, a diverse routed circuit to the Numbered Air Force Headquarters. The right hand telephone is connected to the F/D (front door) circuit, which is connected directly to SAC.

5.03 Each circuit is continually monitored by a loudspeaker mounted in the panel above each telephone. A volume control and a busy lamp are associated with each loudspeaker. The busy lamp is lighted on an alert condition by tone and thereafter by speech from a voice actuated switch on each circuit.

5.04 A common buzzer, buzzer cutoff, and buzzer cutoff guard lamp are provided and located on the red telephone control panel. The buzzer operates on incoming ringing signals for the 4-wire and 2-wire private lines, central office or PBX lines, duress warning, intercom or SAC Telephone Network lines terminating on the green, blue, and yellow positions. The buzzer sounds for 1-second ON, 3-seconds OFF cycle until the call is answered. Depressing and releasing the nonlocking button cuts off the buzzer and lights the guard lamp under the button. To reactivate the buzzer, the button is depressed and released a second time. The guard lamp under the button should be extinguished.

5.05 The functions of the buttons and lamps for this turret are:

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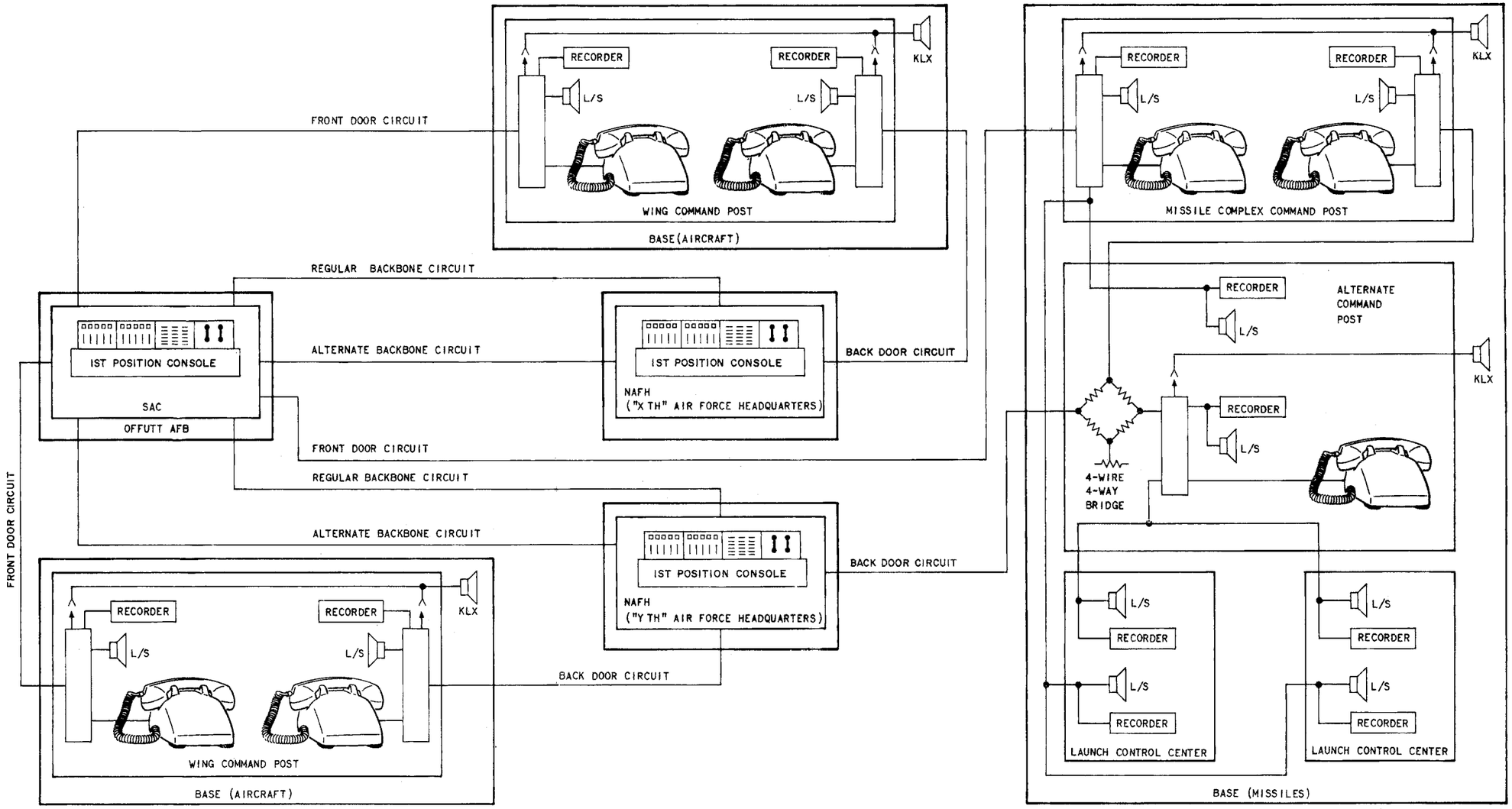

Fig. 2—Primary Alerting System—Block Layout

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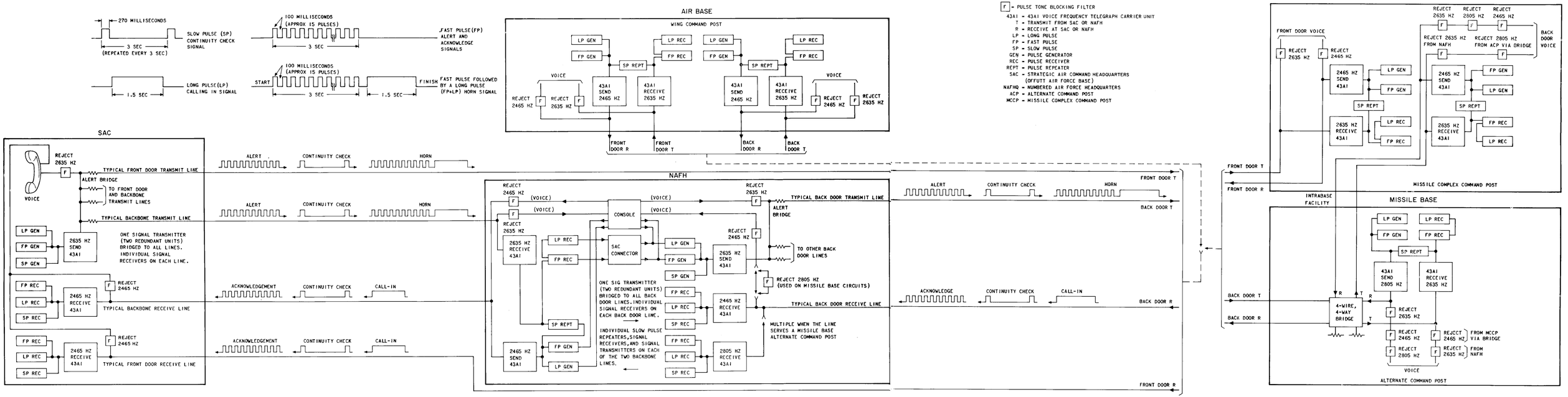

Fig. 3—Primary Alerting System Block Layout—Signaling

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- ***Line Group:*** With the associated handset off-hook, the operation of the nonlocking button groups the B/D and F/D circuits together for simultaneous transmissions on both circuits. The lamp under the button lights when circuits are grouped. Returning the handset to its cradle restores the circuits to normal.

- ***B/D UHF:*** This nonlocking button bridges the receive portion of the B/D circuit for UHF radio transmission of an alert. The lamp under the button will remain lit during attachment to the radio channel. The channel is released by subsequent operation of the B/D UHF button.

- ***F/D UHF:*** This nonlocking button bridges the receive portion of the F/D circuit for UHF radio transmission of an alert. The lamp under the button will remain lit during attachment to the radio channel. The channel is released by subsequent operation of the F/D UHF button.

- ***REG TRAN:*** This nonlocking button seizes the UHF-1 radio channel and the lamp under the button lights indicating transmitter attachment. A subsequent operation releases the connection.

- ***ALT TRAN:*** This nonlocking button seizes the UHF-2 radio channel and the lamp under the button lights indicating transmitter attachment. A subsequent operation releases the connection.

The red telephone control turret pre-empts the gray radio position from access to the UHF-1 or UHF-2 when the REG TRAN or ALT TRAN buttons are operated.

- ***ACK:*** This button acknowledges an alert notification. Either circuit can be used to acknowledge. The lamp under the button lights to verify the location and the circuit.

- ***TRANS:*** This nonlocking button keys the radio transmitter attached (REG TRAN or ALT TRAN). The lamp under the button lights to verify the attachment and releases the transmitter on a subsequent operation.

- ***BUSY:*** This lamp is multipled with the busy lamp on the PAS monitoring loudspeaker. The circuit is activated by a voice switch.

- ***CALL:*** This button initiates a signal to the far end and prepares a transmission path from the red telephone being used. Operating the CALL button of the B/D red telephone will signal the controller at NAFH. Operation of the CALL button on the F/D red telephone will signal the controller at SAC.

- ***KLX:*** This button operates the base klaxon horns for three cycles of 30-seconds ON (operating) and two cycles of 15-seconds OFF. The lamp at this button indicates when the horns are sounding.

- ***KLX-RCO:*** This nonlocking button disables the remote operation of klaxon horns. The lamp under the button serves as a guard lamp to indicate klaxon horn remote cutoff. Subsequent button operation restores the horns to normal remote operation. If a remote klaxon horn signal is received during remote control cutoff, the KLX lamp will flash (120 flashes per minute).

Accidental operation of the KLX or KLX RCO buttons is prevented by a spring-loaded mechanical cover which must be manually tilted to the right to permit access.

- ***FD:*** Indicator lamp to identify the circuit on which a remote klaxon horn activation was made.

- ***BD:*** Indicator lamp to identify the circuit on which a remote klaxon horn activation was made.

- ***KLX L:*** Indicator lamp to identify that a local klaxon horn activation was made.

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- ***KLX RCO:*** Indicator guard lamp for remote klaxon horn disable feature (KLX RCO button).

- ***RLS (Nonlocking Key):*** Releases the locked in lamp signals on the klaxon signal panel.

- ***SACCS (Nonlocking Key):*** Releases the klaxon horn signals activated by customer-owned and maintained equipment.

- ***XMIT-1:*** Guard lamp to indicate transmitter operation on UHF-1. This lamp is lighted only on transmissions from the gray radio position.

- ***XMIT-2:*** Guard lamp to indicate transmitter operation on UHF-2. This lamp is lighted only on transmissions from the gray radio position.

- Red and green lamps on each red telephone provide visual line security. For an off-hook condition, listen only, the lamps light alternately at about 60 IPM, red lights-green dark, green lights-red dark, etc. On transmission with the push-to-talk switch in the handset operated, both lamps light steadily.

- Security units are provided which short circuit the transmitter and receiver while the telephone is on-hook to eliminate pickup of room sounds by the telephone set transmitter or receiver.

6. METHOD OF OPERATION

A. General

6.01 Operational procedures for the turrets differentiate by color because of the functional use of the service at that particular position. Four-colored handsets identify the functional operation (gray—radio, green—conference, blue—emergency, and yellow—base services).

6.02 Circuit assignments are duplicated between the right and left side and all circuits having conference ability have second appearance pick-up provisions at the green positions. Turret appearances of lines are shown in Table A.

6.03 Each pickup button has a lamp under it and the following lamp indications are provided:

(a) ***OFF:*** Indicates the line is not in use at any position.

TABLE A

LINE DESIGNATION	TURRET APPEARANCES
* Control Tower	Green and Yellow positions
† Duress	Green and Yellow positions
* Fire	Green and Blue positions
Hot Line	Green and Yellow positions
Intercom	Green positions
Page	Green positions
PBX-EXT (1)	Green and Blue positions
PBX-EXT (2)	Green and Blue positions
* Police	Green and Blue positions
† RAPCON	Green and Yellow positions
STN (SAC Tel Network)	Green and Yellow positions
AUTOVON - 1	Green and Yellow positions
AUTOVON - 2	Green and Yellow positions
†† Toll Line	Green positions

* Direct line with automatic ringing.
† The duress line, also known as the six station conference and alarm circuit, connects to the area security guards.
†† Toll Line: Local dial service with incoming and outgoing access to the direct distance dialing network.

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(b) ***STEADY:*** Indicates the line has been selected at some other position.

(c) ***FLASHING (60 IPM):*** Indicates an incoming call on the line which has not been answered by any position.

(d) ***WINKING (120 IPM):*** Indicates the line is being held.

(e) ***FLUTTERING (720 IPM):*** Indicates the line is being used at that position.

(f) ***FLASHING FLUTTER (steady 1/2 second—720 IPM 1/2 second):*** Indicates the line is connected to conference at this pickup button.

A common buzzer located on the red telephone control turret operates on all incoming signals except AUTOVON service. For AUTOVON service, a ringer is used and it is located in the red telephone position. When high precedence and preemption features are required, different ringing conditions differentiate the class of incoming AUTOVON calls.

6.04 To answer an incoming call, the attendant removes the handset from its cradle and depresses the pickup button associated with the flashing lamp. This changes the lamp from flash to flutter at this position. At other positions it changes from flash to steady.

After the pickup button has been operated, the handset will remain connected to that line until released by hanging up the handset, operating the release button, or another pickup button.

6.05 Any outgoing or incoming lines except duress, page or intercom may be put on hold at the position at which it was answered or picked up. When a line is put on hold, the lamp changes from a flutter at that location to winking. The steady lamp at other positions also changes to wink. Putting the line on hold releases the attendant for other functions without disturbing this circuit.

6.06 Any number of lines may be placed in the hold condition without disturbing the hold condition on other lines. Any held line may be reseized by operating the line pickup button at the holding position or any other position at which the line has a button appearance.

6.07 When the attendant position initiates an outgoing dial call, a pickup button for the CO, PBX or TOLL LINE is operated and a dial circuit is bridged for dialing at the yellow, blue, and green positions.

6.08 Transmission from all attendant positions is controlled by the push-to-talk (PTT) switch in each handset. The receiver circuit allows the attendant to listen but the transmitter is not in the circuit until the PTT switch is depressed.

B. Yellow Position—Base Services

6.09 Typical types of services appearing at the yellow position are direct lines such as: Hot Line, RAPCON, Tower, etc. Operation of the nonlocking pickup button connects the attendant to the line circuit. The line circuit recognizing the off-hook condition sets up an automatic ringing at the far end. Answering at the far end removes ringing and connects the transmission path.

6.10 The TOUCH-TONE dial is provided at the yellow position for dialing on AUTOVON network. The dial is bridged on the attendant circuit so dialing can begin on receipt of dial tone.

6.11 The duress circuit has an originate or answer pickup at this position. Operating the non locking pickup button causes the common equipment to ring all other five locations. The purpose of the duress alarm is to provide an alerting signal to security locations that a security emergency is taking place. The other five locations will be able to communicate with each other over the conference arrangement and coordinate efforts to resolve the emergency.

C. Blue Position—Emergency Services

6.12 Operation of the blue position is similar to the yellow position.

6.13 The services terminating at this location are of the emergency category and centralized at one position for expediency.

D. Green Position—Conferencing

6.14 The primary function of the green positions is conferencing. The method of operation for answering or initiating calls is the same as other positions. Lines appearing at the green position for conferencing also have appearances at the blue or yellow positions.

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6.15 Conference calls can be set up from either one of the green positions. A single bridge is provided with access from either position, but it is limited to the control of only one position for conferencing. When seized by either attendant, the other is denied conferencing ability until the bridge is released.

6.16 The conference bridge is designed to connect up to five lines (out of group of 20 lines maximum) to an amplifier-type conference bridge. It enables the attendant to be connected or disconnected at the attendant's discretion. Speech and control paths are set up thru a crossbar switch.

6.17 Each line that has been designated for conference will have a pickup location on the green position. In addition to the line pickup buttons, the position includes the following functional buttons.

- ***CONF:*** This button connects the attendant to the bridge (if not seized by the other position) and transfers the attached line from the attendant to a port of the conference bridge, if the line is wired for conference.

- ***ATT CONF RLS:*** Releases the attendant from the bridge so the attendant can call and add other lines.

- ***CONF RLS:*** Releases all lines from the bridge and the attendant.

- ***RECALL:*** Opens the line current for flashing the operator on a PBX or CO line. If the distant end on a direct line such as Tower, RAPCON, etc, should hang up, a rering can be started by the operation of the RECALL button.

- ***RLS:*** Releases any nonconference connections to the attendant.

- ***HOLD:*** Releases the line from the attendant but provides a shunt on the line to prevent disconnection.

Note: The hold feature or conferencing can not be used on duress, page, or the intercom lines.

6.18 When a conference bridge is to be established, the attendant and a line circuit will be connected to each other thru an operated pickup button. The operation of the CONF button seizes the conference bridge and connects the line circuit to the first port of the bridge. The attendant is also transferred and connected to port six.

6.19 On operation of the CONF button, the lamp associated with the pickup button, changes from fluttering to flashing flutter indicating a conference. The lamps at other locations remain steady.

6.20 When the attendant affirms the line is connected to the bridge (usually by voice communication), the attendant operates the ATT CONF RLS button. This releases the attendant from the bridge.

6.21 To connect the second line to the bridge, the attendant operates the pickup button of the line desired. The attendant establishes a connection as required (either ringdown or dial) with the second line party and then attaches the line to the conference port two by reoperating the CONF button. (The attendant will again be connected to port six.) Reoperation of the ATT CONF RLS button will release the attendants position from the bridge.

6.22 Up to five lines can be connected to the bridge in the same manner. When the fifth line is connected, the lamp under the CONF button will light, indicating that the conference capacity has been reached. When any conferee disconnects, the lamp under the CONF button will extinguish. This signals the attendant that a vacancy exists on the conference.

6.23 Lines connected to the conference may disconnect individually by going on-hook. This will release the conference bridge port and extinguish the associated pickup button lamp at all positions.

6.24 The attendant can disconnect an individual conferee by first disconnecting from the bridge (if connected) by operating the ATT CONF RLS button. Operation of the line pickup button to which the conferee is connected will release that line from the conference and connect the line with the attendant.

6.25 The entire conference can be released by attendant action. The operation of the CONF

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RLS button by the attendant disconnects all lines from the conference including the attendant, if attached.

6.26 The conference bridge is provided with a monitor amplifier and two loudspeakers, one located at each yellow position. The loudspeakers continuously monitor the conference bridge except during transmissions from the conference attendant at which time the loudspeakers are muted. Either one or both attendants have the ability to monitor the conference from the handset by the operation of the CONF button. The controlling attendant can transmit but the second attendant can monitor only.

E. Gray Position—UHF Radio Transmissions

6.27 Access to the UHF radio channels is limited to the STN (SAC Telephone Network), PAS (Primary Alerting System) and the attendants at each of the gray radio control positions.

6.28 The UHF control circuit is accessible from the two attendant positions, each having control buttons and lamps for independent operation. See Fig. 4.

6.29 A monitor loudspeaker is provided for each radio channel. UHF-1 and UHF-2 appear on the gray position, UHF-3 appears on the yellow position. The loudspeakers are individually adjustable for independent attendant monitoring.

6.30 When the UHF-1 or UHF-2 is seized by the red telephone control turret for alert transmissions, they cannot be accessed from the gray positions.

6.31 The gray radio positions perform the following functions.

- UHF radio channels and STN lines are accessed by pickup buttons.
- Release of lines or UHF radio channels is controlled by the attendant RLS button operation or by restoring the gray handset to its cradle.
- Radio transmitters are keyed by attendant action.

(a) ***Transmissions from attendants:*** Transmitter operation is controlled by the attendant operating the handset push-to-talk switch.

(b) ***Transmissions from STN circuits:*** Transmissions are controlled by the attendant operation from cueing or directives from the STN station to the gray position attendant. The transmitter is operated by the attendant depressing the PUSH TALK button or the FOOT switch. The transmitter is released by the attendant releasing the operated PUSH TALK or FOOT switch.

6.32 Each pickup button has a supervisory lamp under it and the following lamp indications are used.

- ***Lamp Off:*** Idle line or radio channel (gray position only).
- ***Lamp on Steady:*** Busy line or radio channel at another gray position.

Notes:

1. UHF-1 and UHF-2 being used by the PAS do not extend a busy lamp to the gray positions. Busy conditions are indicated and verified by the loudspeaker monitors.
2. The STN circuits do not multiple the lamp indications between the gray, yellow, or green positions. They can be picked up at the gray position and when terminated extend a lamp busy indication to the yellow and green positions.

- ***Fluttering Lamp:*** Line or radio position in use at that position.

6.33 Incoming calls on the STN circuits are not indicated at the gray position. Requests for radio transmissions are answered by attendants on the yellow or green positions. The transfer may be made by the same attendant or verbally indicated to the gray position attendant to pickup the STN circuit requesting the radio position.

F. Recording

6.34 The customer will provide a 24-hour multi-channel recorder to monitor the entire

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turret. It will require 11 recorder connectors, one for each handset location including each of the PAS circuits and the conference amplifier. At the gray handset and the PAS locations, the beep tone may be disabled, since CO or PBX trunks cannot be accessed from these positions. Beep tone will be required at all other positions.

G. Loudspeaker Circuits

6.35 Four switchable loudspeakers are provided. Two selector switches, each having five locking buttons and a release ON/OFF button, are associated with each speaker amplifier circuit.

6.36 The amplifier is a compression-type, which permits input signals of varying levels to give a substantially constant output to the speaker. A volume control potentiometer is provided at each speaker.

7. MISCELLANEOUS RELAY UNITS

7.01 The 2-wire private line circuit is line circuit relay equipment generally used with services typically designated Police, RAPCON, Fire, and Tower. Operation of a pickup button at the position causes ringing to be applied until the far end station answers by going off-hook. A call being initiated from the far end causes a ringup circuit to flash the lamp at the line appearance of each position and operates the common buzzer. When this circuit is used for a STN line, a 24V4 repeater is required for use at the gray radio position.

7.02 The 4-wire private line circuit is line circuit relay equipment generally used with services typically designated Hot Line, SAC Tel Net, and AUTOVON. Signal provision for 4-wire line circuits provide for automatic ringing, dialing (rotary and TOUCH-TONE), and voice signaling. When this equipment is used with the conference bridge, a 24V4 repeater is provided to terminate 2-wire.

7.03 The six station conference and alarm circuit was designed primarily for use as a Duress Warning System at Strategic Air Command bases. It provides a 6-station conference and alarm circuit arranged for continuous test of station loop conductors. A call from any one station will signal all other stations to indicate an alarm or emergency.

7.04 The central office or PBX line circuit is line circuit equipment generally used with services typically designated PBX and Toll Line. The PBX reflects a station (designated by number) off the base Dial Telephone System. Toll line denotes a circuit from the local Telephone Company providing access, outgoing and incoming to the direct distance dialing network.

7.05 Paging trunks provide for amplifier access and control features. The paging equipment is generally customer-owned and maintained.

7.06 Intercom circuits terminate in local station equipment and provide for either direct lines or dial capabilities.

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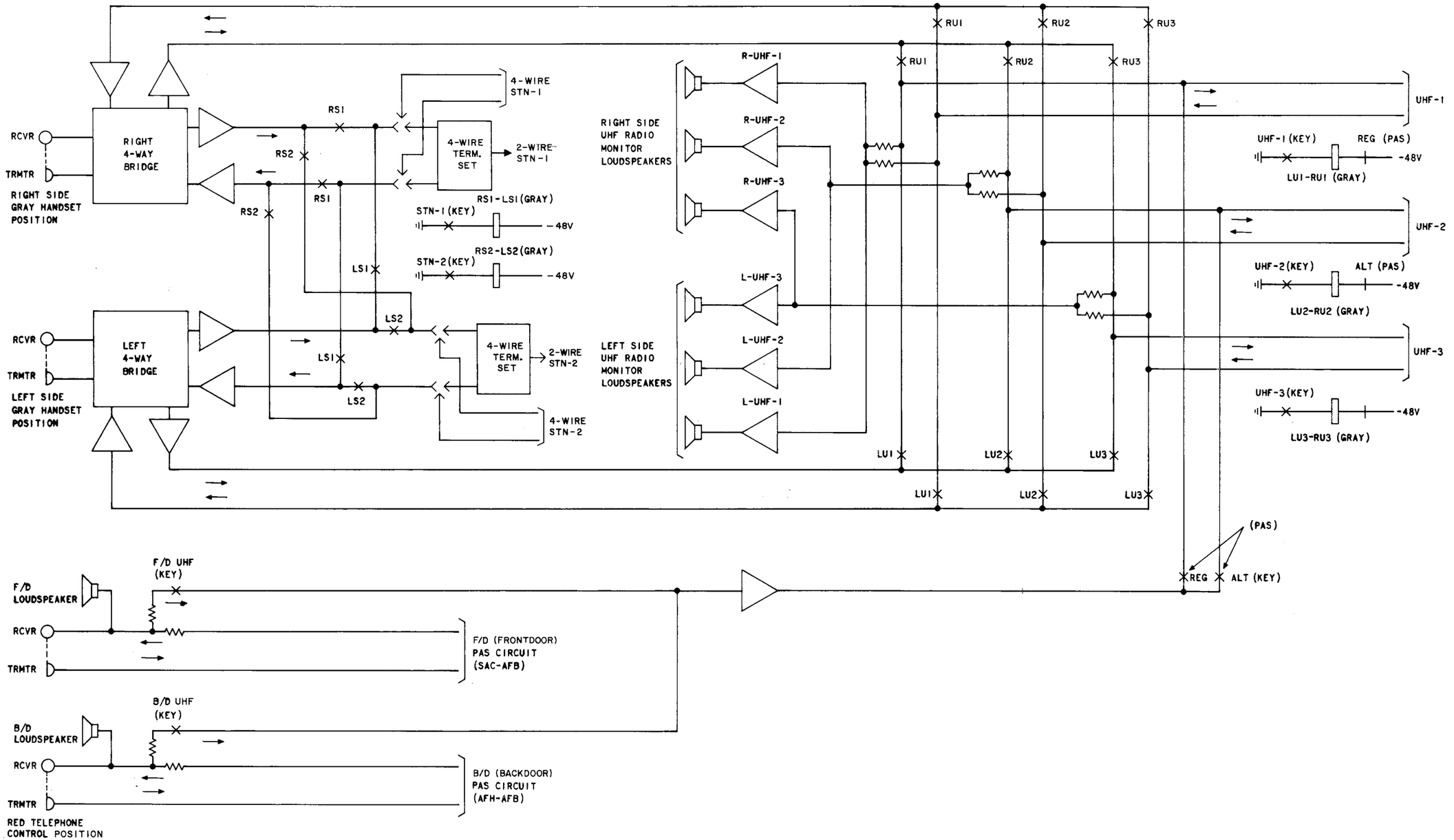

Fig. 4—SAC Main Operating Base Turret—Condensed Functional Drawing for UHF Radio Access From the Primary Alerting System, Gray Position Attendant and SAC Telephone Network

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