

**8A KEY TELEPHONE SYSTEM FOR USE AT  
911 EMERGENCY REPORTING/ANSWERING BUREAUS  
CALL DIRECTOR® TELEPHONE SET  
METHOD OF OPERATION**

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**1. GENERAL**

**1.01** This section describes the method of operation for the 8A Key Telephone System for use at 911 emergency reporting/answering bureaus using 682-, 2682-, 683-, and 2683-type CALL DIRECTOR® telephone sets.

**1.02** Whenever this section is reissued, the reason for reissue will be listed in this paragraph.

**1.03** It is recommended that the answering bureau attendants test all 911 lines for continuity each morning by depressing each 911 line button and listening for reorder tone (120 ipm). The presence of reorder tone signals the attendant that there is continuity between the reporting/answering bureau and the 911 central office (CO).

**1.04** The CALL DIRECTOR telephone sets (682-, 2682-, 683-, 2683-types) for use with the 8A Key Telephone System require five nonlocking buttons to operate the various features. Three of the nonlocking buttons (HOLD, FLASH, RLS) are standard. Two of the buttons (TRF and TRF RLS) must be converted in the last key strip. The nonlocking buttons function as follows:

- **HOLD**—Momentarily operate to place nontransferred 911 line or 2-way dial line on hold.

*Note:* 2-way tie lines cannot be placed on hold at anytime. 911 lines or 2-way dial lines cannot be placed on hold after they have been transferred.

- **FLASH**—Momentarily operate to initiate the optional emergency ringback feature.
- **RLS (Release)**—Momentarily operate to release an incoming 911 line.
- **TRF RLS (Transfer Release)**—Momentarily operate to release a call transferred by the 911 attendant to a 2-way line, without disconnecting the 911 line.
- **TRF (Transfer)**—Momentarily operate to initiate the transfer of an incoming 911 call to a 2-way dial or tie line.

**1.05** Table A provides a lamp signal description for the 8A Key Telephone System.

**2. DESCRIPTION OF TERMS**

- **911 Attendant**—Person at 911 reporting/answering bureau who answers 911 emergency call and directs the call to the responsible agency or dispatches the emergency service directly.

**TABLE A**  
**LAMP SIGNAL DESCRIPTION FOR**  
**8A KEY TELEPHONE SYSTEM**

LAMP CONDITION	SIGNAL DURATION IN SECONDS	
	ON	OFF
Dark		
Steady		
LTR (30 ipm)	1.610—1.710	0.29—0.39
Flash (60 ipm)	0.45—0.55	0.45—0.55
Fast Flash (120 ipm)	0.22—0.28	0.22—0.28
Wink (120 ipm)	0.367—0.373	0.02—0.05

*Note:* ipm = interruptions per minute

**LTR (Lamp Transfer Rate):** Lamp signal rate of 911 lamp and 2-way line lamps when a 911 call is transferred to a 2-way dial or tie line, and of TRF lamp during setup of transfer.

**Flash:** Lamp signal rate when a held (on-hook) 911 line goes off-hook and audible signal sounds to alert the attendant.

**Fast Flash:** Lamp signal rate for all incoming calls on 911 lines and 2-way lines.

**Wink:** Lamp signal rate when a line is placed on hold.

- **911 Call**—A call over a 1-way incoming CO line which may be used by the public to request any type of emergency aid.
- **Ringback**—Operation of the FLASH button by the 911 attendant causes the 911 CO trunk circuit to ring the calling party's telephone. The ringback feature can only be used on nontandem 911 calls when the calling party goes on-hook.
- **2-way tie line**—A 2-point private line with 2-way automatic dc signaling between the 911 emergency reporting/answering bureau and a frequently called emergency agency.

- **2-way dial line**—A 2-way dial CO line used by the 911 attendant to transfer incoming 911 calls to infrequently called emergency agencies. This line can also receive and originate dialed CO calls.
  - **LTR (Lamp Transfer Rate)**—The rate (30 ipm) at which the TRF, 2-way line, and 911 line lamps operate when a 911 call is transferred to a 2-way dial or tie line.
  - **CALL DIRECTOR telephone sets**—The telephone sets (682-, 2682-, 683-, 2683-type) used at the 911 emergency reporting/answering bureau to answer and transfer calls.
  - **Call transfer**—The attendant at the 911 emergency reporting/answering bureau answers a 911 call, determines which is the responsible agency and transfers the 911 call to the responsible emergency agency via a 2-way dial line or 2-way tie line.
  - **Hold**—The 911 attendant places nontransferred 911 line or 2-way dial line on hold by momentarily operating the HOLD button on the CALL DIRECTOR telephone set. The line button releases and the line lamp changes from steady to wink (120 ipm).
- Note:** Hold is not available on 2-way tie lines.
- **Disconnect**—Forced release by the 911 attendant of an incoming 911 line.
  - **Transfer release**—Allows the attendant to release the connection to a 2-way line while maintaining the connection with a 911 line.

### 3. METHOD OF OPERATION

#### INCOMING 911 CALL

**3.01** The common audible signal sounds (1.0 second ON; 3.0 seconds OFF) at the 911 attendant position. The line lamp of the incoming 911 line operates at fast flash (120 ipm). The 911 attendant depresses the locking-type line button associated with the flashing lamp, the common audible signal silences, and the line lamp changes from fast flash (120 ipm) to steady.

**3.02** If the calling party goes on-hook before the attendant answers the call, the attendant will hear reorder tone (120 ipm) indicating the call is lost.

**3.03** After the attendant answers the call and voice communication is established with the 911 calling party, the attendant receives a request for emergency service.

**3.04** The attendant determines which is the responsible emergency agency and prepares to either transfer the call by direct transfer, dial transfer, or the attendant may dispatch the necessary emergency service directly. On direct 911 lines after a call has been answered, the attendant controls the connection even if the calling party goes on-hook.

#### **TRANSFER VIA 2-WAY TIE LINE**

**3.05** The attendant momentarily operates the nonlocking TRF button on the CALL DIRECTOR telephone set, which causes the TRF button lamp to light at LTR (30 ipm) on the operated telephone set and illuminate steadily on all other telephone sets in the system.

**3.06** The transfer switch is blocked to all other attendant positions until the operating attendant selects a tie line circuit.

**3.07** The attendant then operates one of the 2-way tie line buttons to the responsible agency, which releases the 911 pickup button, extinguishes all transfer button lamps, and connects the 911 line to the 2-way tie line through the transfer switch network. Both the 911 line lamp and the 2-way tie line lamp are illuminated at LTR for the duration of the transferred connection.

**3.08** If a tie line circuit is not selected within 5 seconds, the transfer control circuit times out, the transfer switch releases, the TRF lamp extinguishes, and the attendant must then reoperate the TRF button.

**3.09** The distant end of the tie line is automatically signaled by the tie line circuit. Audible ringback tone will be heard by the attendant if option Y of the AE39 circuit pack is provided.

**3.10** When the distant end of the tie line answers, a 3-way connection is established with the

calling party, the 911 attendant, and the responsible agency.

**3.11** Control of the call is retained by the 911 attendant as long as the attendant remains bridged on the line. The attendant must remain on the connection to verify that the proper emergency agency has been reached.

**3.12** It is recommended that the attendant remain on the connection whenever possible. However, the attendant may release from the connection to answer another call by momentary operation of the RLS button, and call control is forwarded to the two-way tie line.

**3.13** When the attendant has released from the connection and the responsible agency goes on-hook, the supervisory relay of the tie line circuit releases, causing the transfer switch to release. The 911 CO line circuit times out, the calling party is released, and the lamps in both the 911 line button and the tie line button extinguish.

#### **TRANSFER VIA 2-WAY DIAL LINE**

**3.14** The attendant momentarily operates the nonlocking TRF button on the CALL DIRECTOR telephone set, which causes the TRF button lamp to light at LTR (30 ipm) on the operated telephone set and illuminate steadily on all other telephone sets in the system.

**3.15** The transfer switch is blocked to all other attendant positions until the operating attendant selects a dial line circuit. If a dial line is not selected within 5 seconds, the transfer control circuit times out, the TRF lamp extinguishes, and the attendant must then reoperate the TRF button.

**3.16** The attendant then operates one of the 2-way dial line buttons, the line lamp operates at LTR, and CO dial tone is received. The attendant then dials the 7-digit telephone number of the responsible agency. When dialing is completed, the attendant will hear audible ringing tone until the responsible agency answers.

**3.17** When the responsible agency goes off-hook, ringing trips, the audible ringing tone silences, and a 3-way connection is established with the calling party, the 911 attendant, and the responsible agency. Both the 911 lamp and the

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2-way lamp are illuminated by LTR for the duration of the call.

**3.18** Call control will be maintained by the 911 attendant except when option V is provided on the HK9 dial line transfer circuit pack. When option V is provided, call control will pass to the 911 caller when the 911 call is transferred to a 2-way dial line circuit and the attendant releases from the connection.

**3.19** When option V is not provided, the 911 attendant may release from the connection to answer another call by momentary operation of the RLS button. To determine when a call has been terminated, the attendant must reenter the connection by depressing the 911 line button and listening for voice communication.

**3.20** When it is determined the call has been terminated, the attendant momentarily operates the TRF RLS button, which releases the 2-way dial line and extinguishes the dial line lamp on the CALL DIRECTOR telephone set. The attendant then momentarily operates the RLS button to release the 911 line. The 911 button returns to normal and the 911 lamp goes dark.

### EMERGENCY RINGBACK

**3.21** Emergency ringback is an optional feature activated by the momentary operation of the FLASH button on the CALL DIRECTOR telephone set.

**3.22** If the 911 caller goes on-hook after the 911 attendant has answered the call but before all necessary emergency location information has been received, the 911 attendant momentarily operates the FLASH button and a 500-millisecond (0.5 second) timed switchhook flash is produced by the D-180645 kit of parts. The timed flash is recognized by the 911 CO trunk circuit which then applies a burst of ringing voltage on the 911 calling party's line. Emergency ringback is an optional feature which can only be provided on nontandem direct trunk 911 lines.

### SWITCHHOOK STATUS

**3.23** The optional switchhook status circuit is used to alert the attendant when a held

on-hook 911 caller goes off-hook, and is also useful for call tracing.

**3.24** When a 911 caller goes on-hook prematurely during conversation with the attendant and does not go off-hook in response to emergency ringback, the attendant may place the 911 line on hold by momentary operation of the HOLD button on the CALL DIRECTOR telephone set.

**3.25** When the attendant operates the HOLD button, the 911 button releases and the 911 line lamp changes to wink. When the 911 caller goes off-hook, the 911 line button lamp changes from wink to flash and the switchhook status audible signal (buzzer) sounds to alert the attendant. The attendant depresses the flashing line button, the buzzer silences, the flashing lamp changes to steady, and the talk path between the 911 caller and the attendant is reestablished.

**3.26** Switchhook status is an optional feature available only on direct trunk (nontandem) 911 calls.

### DISCONNECT

**3.27** To disconnect an incoming 911 line, the attendant momentarily operates the RLS button on the CALL DIRECTOR telephone set. The 911 line button releases, the line lamp extinguishes, and the 911 CO trunk circuit times out and releases the connection.

### HOLD

**3.28** The attendant can place an off-hook 911 line or a 2-way dial line on hold (2-way tie lines cannot be placed on hold) by momentary operation of the HOLD button on the CALL DIRECTOR telephone set. The line button releases and the line lamp changes from steady to wink. To remove the caller from hold, the attendant depresses the winking line button, which reestablishes the talking path between the calling party and the 911 attendant and causes the line lamp to change from wink to steady.