12A ANNOUNCEMENT SYSTEM SD-26435-01
DESCRIPTION, OPERATION, AND MAINTENANCE
COMMON SYSTEMS

CONTENTS PAGE

1. GENERAL

1.01 This section contains the description, operation, and maintenance requirements for the 12A Announcement System.

1.02 The reasons for reissuing this section are listed below. Revision arrows are used to emphasize the more significant changes. The Equipment Test List is affected.

(1) Add tests for voice failure control

(2) Add tests for alignment

(3) Change the end-of-tape detection from tone detection to optical detection

(4) Include record features.

1.03 The 12A Announcement System shown in Fig. 1, provides one to four different recorded announcements simultaneously or individually. Each announcement can serve up to 100 lines at the same time with a minimum length of 10 seconds. ▶This announcement unit can now be ordered to include recording features or existing units may be retrofitted to add the recording features. The figure references in this section do not show the 12A announcement unit with the recording features included.◀

1.04 The announcements can be monitored by plugging a 52-type headset into the MON T and R jacks, setting the CHAN SEL switch to the appropriate channel and depressing the TST pushbutton.

1.05 ▶The 12A Announcement System has a voice alarm and control circuit associated with it. This circuit provides a means to check for the presence of voice on the announcement bus. When a voice failure occurs, an alarm indication is given, and failure indication is given to the connected circuits. Testing for this circuit is provided in paragraph 6.01.◀

1.06 This circuit provides coordinated cut-through service or optional butt-in service on all or any combination of announcements.

1.07 This circuit requires 10 inches of space on a standard 23-inch rack. It requires -48 volts and 120 volts ac power.

2. OPERATION

2.01 When the unit is not playing, all relays are released; the solenoid is released; the motor is not running; the IN USE lamp is not lighted, but the PWR lamp is lighted.

2.02 When an announcement is requested, the tape begins moving across the 4-channel tape head. All four announcements begin simultaneously, and if all A1054 circuit packs are provided, four announcements are amplified and made available to the office. If all A1054 circuit packs are not provided, the number of available announcements corresponds to the number that is provided.

A. Butt-In Service Only

2.03 When the unit is ordered with butt-in service only, the ▶A1264◀ circuit pack is deleted, and wiring option Z is provided. This causes the unit to play only when the office trunks request a message. When the trunk releases, the tape stops wherever it happens to be ▶at that moment. The next request will begin where the last request left off. If another message request occurs during the previous request, the message will begin at whatever point the first message is on the tape.◀

B. Coordinated Cut-Through

2.04 With coordinated cut-through service, one A1056 and one ▶A1264◀ circuit pack are always required in addition to one A1054 circuit pack for each channel equipped. There is a ▶reflective strip which, when sensed by the A1264 optical detector circuit pack,◀ initiates logic and relay action making four leads available to the connecting trunk for proper use of the coordinated cut-through feature. At the announcement end, if a new announcement request has occurred or if the old request is still present, the unit continues to play. If no request is present, the tape stops and the unit automatically returns to ▶the end of the tape. If a message request occurs during the previous request, there will be a brief waiting period until the first message has completed its cycle.◀

C. Butt-In With Coordinated Cut-Through

2.05 Butt-in operation on any combination of channels can be obtained on a unit equipped with the coordinated cut-through feature. If there is a request for an announcement when the unit is playing, normal butt-in operation will occur. If the butt-in request occurs while the unit is idle, the message always starts at the beginning instead of wherever the last message left off. There is never a waiting period with this form of butt-in service.

3. ▶PRECAUTIONS

3.01 This equipment contains semiconductor devices subject to damage if circuits are removed while the power is applied.

3.02 Hazardous voltages exist at certain points in these circuits. Care should be taken when making test connections to avoid electrical shock and damage to the device.

3.03 When removing power for circuit pack replacement, remove the ac plug and/or the fuses at the fuse panel.

4. RECORDING

4.01 The procedure for making a recording follows:

(1) Place the 52-type headset into the MON T and R jacks.

(2) Place the channel selector to the channel on which the message is to be recorded.

(3) Press the record button (red).

(4) Press the test button (black) to start the tape.

(5) Press and hold the erase button (black) for a minimum of 1 revolution of the tape.

(6) When the white splice crosses the record head, speak into the microphone. The record head is on the right side as viewed from the front.

(7) At the end of message, immediately press the play button.◀

5. MAINTENANCE

A. Tape Replacement

5.01 The apparatus to be used for tape replacement is shown in Fig. 2. To remove the tape:

(1) Remove the cover from the front of the tape unit.

(2) Depress the tension arm and slide the tape from under the magnetic head.

(3) Remove the tape from under the spindle roller.

(4) Depress the pinch roller mounting arm, and remove the tape from the unit.

(5) Demagnetize the head with a Robins TD6 (or equivalent) tape head demagnetizer according to the manufacturers' instructions.

(6) To replace the tape, reverse the procedure.

Note: When replacing a tape with a new tape ordered per WESTERN ELECTRIC* drawing H-595938, place the tape over the spindle roller with the splice facing away from the magnetic head. Correct mounting can be verified by monitoring the tape output.

B. Cleaning

5.02 To clean the 12A Announcement System:

(1) Remove the cover from the front of the 12A Announcement System.

(2) Remove the tape—(see paragraph 5.01).

(3) Using a clean KS-2423 cloth and KS-20406, L1 cleaner, clean the surfaces touched by the tape—spindle roller, pinch roller, capstan, tension arm, and magnetic head.

Caution: Never spray KS-20406 cleaner on any part of the tape unit. For cleaning purposes, lightly moisten a KS-2423 cloth with KS-20406 cleaner. Do not saturate the cloth.

(4) Remove all accumulations of tape oxide and dust.

(5) Wipe all parts with a clean, dry KS-2423 cloth. ***Important:*** Do not put fingers on any surface which the tape contacts.

(6) Demagnetize the head with a Robins TD6 (or equivalent) tape head demagnetizer according to manufacturers' instructions.

(7) Replace the tape on the unit—(see paragraph 5.01).

(8) Moisten a KS-2423 cloth with ***water*** and clean the cover.

(9) Replace the cover.

C. Demagnetize Head

5.03 To demagnetize the head:

(1) Remove the cover from the front of the 12A Announcement System.

(2) Remove the tape—(see paragraph 5.01).

(3) Demagnetize the head according to manufacturers' instructions with a Robins TD6 (or equivalent) tape head demagnetizer.

(4) Replace the tape—(see paragraph 5.01).

(5) Replace the cover.

6. ▶TESTING

6.01 The Voice Failure Control and Alignment Tests follow.

*Registered trademark of Western Electric Co.

STEP	ACTION	VERIFICATION
A. Voice Failure Control Test		
1	At voice alarm control unit of 12A announcement unit—	

STEP	ACTION	VERIFICATION
2	Insulate 10B and 11B of STD relay.	
3	Block operated STA relay.	OS-ALM lamp lighted. Audible alarm sounds.
4	Remove blocking tool from STA relay.	OS-ALM lamp remains lighted.
5	Momentarily operate OS-AR key.	OS-ALM lamp extinguished. Audible alarm silenced.
6	Remove insulator from 10B and 11B of STD relay.	
7	Rotate A potentiometer to its extreme clockwise position.	
8	Block operated STA relay.	OS-ALM lamp remains extinguished. Audible alarm remains silent.
9	After approximately 40 seconds— Rotate A potentiometer to its extreme counterclockwise position.	After 6 to 12 seconds— OS-ALM lamp lighted. Audible alarm sounds.
10	Remove blocking tool from STA relay.	OS-ALM lamp extinguished. Audible alarm silenced.
12	Rotate A potentiometer to its extreme clockwise position.	
13	Perform Test B—Alignment.	

B. Alignment Test

1	At voice alarm control unit of 12A announcement unit—	
2	Using a KS-14510, L11, VOM connect plus (+) lead to 11M and negative (-) lead to 11B of STA relay.	
3	Set VOM at 12 volt scale.	
4	Block operated STA relay.	IN USE lamp lighted. Fluctuating VOM reading (0 to 1 volt).
5	Rotate A potentiometer counterclockwise until VOM fluctuates (1 to 3 volts).	Fluctuating VOM reading (1 to 3 volts).
6	Monitor announcement five cycles.	
7	Remove blocking tool from STA relay.	

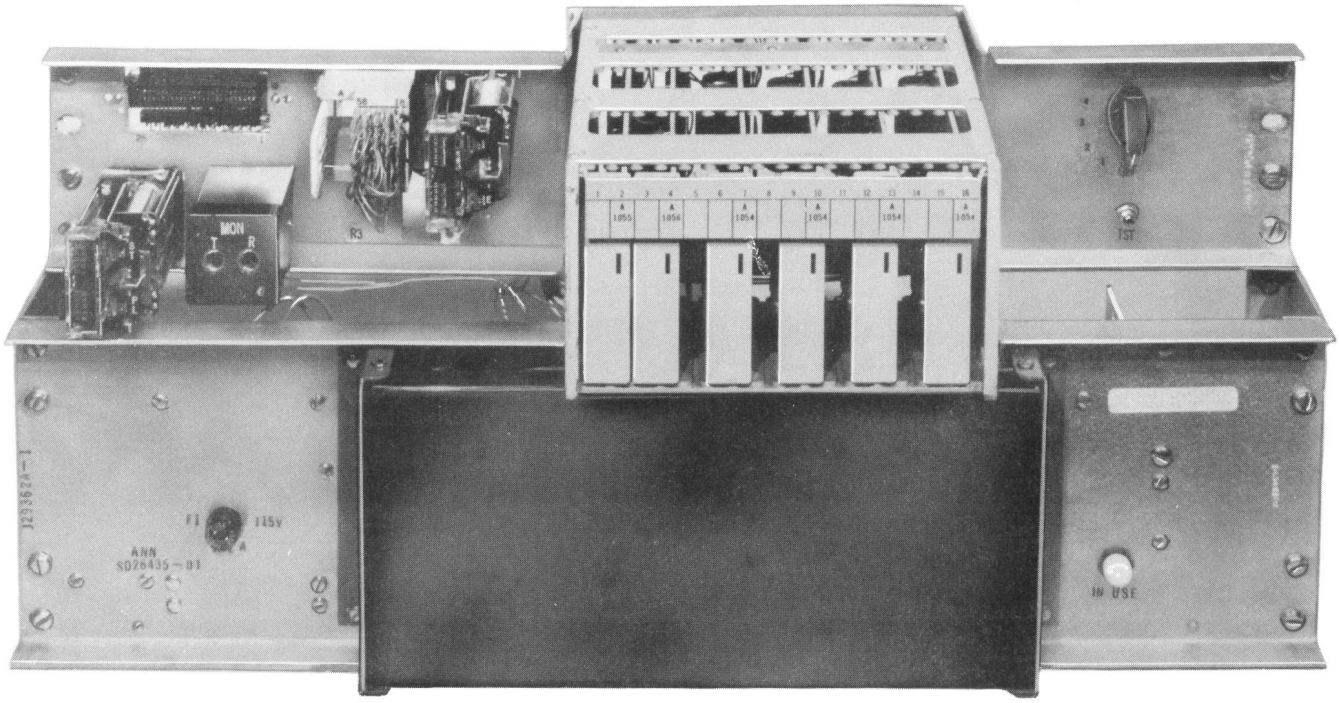

Fig. 1—12A Announcement System (Front Door Closed)

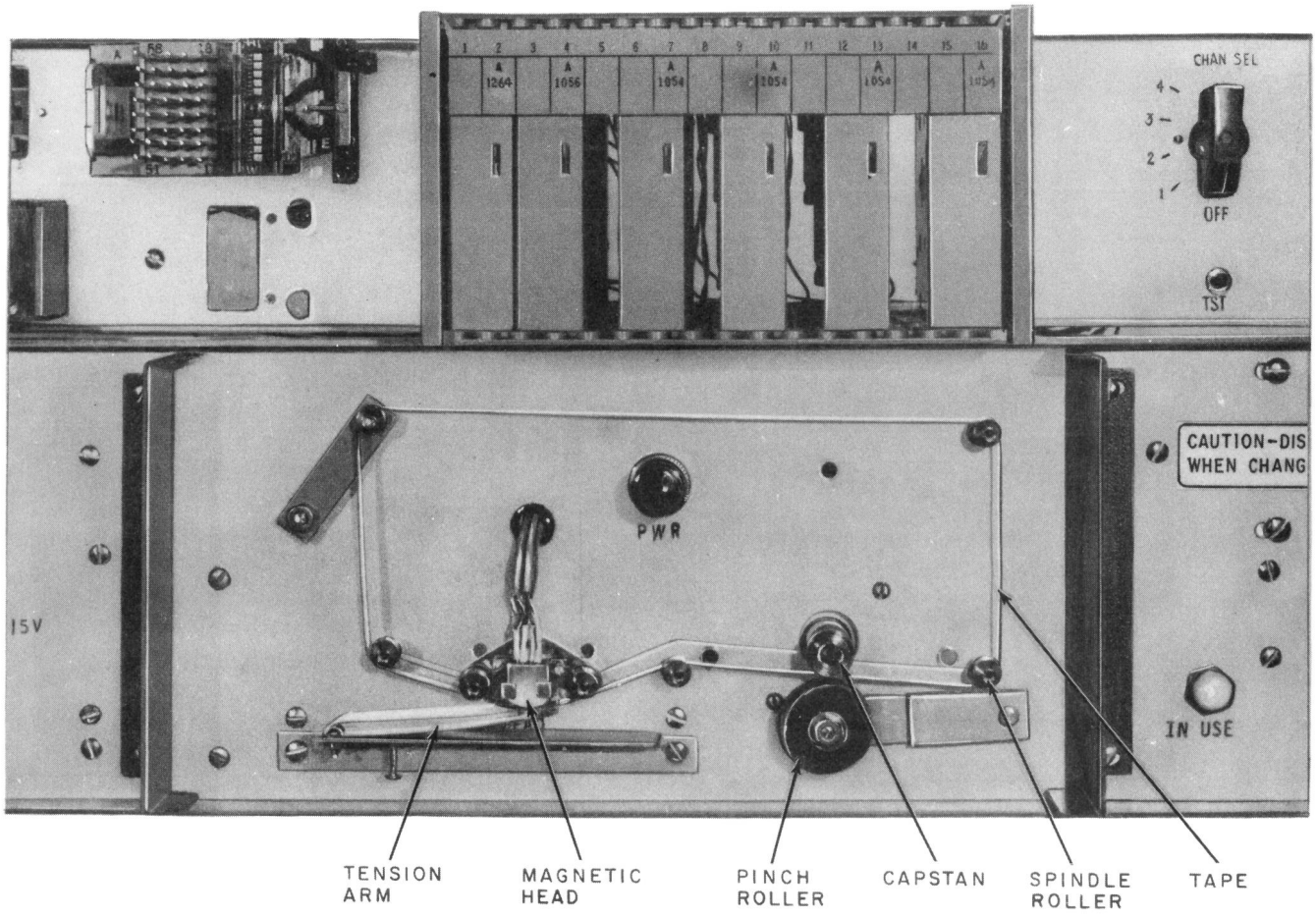

Fig. 2—12A Announcement System (Front Door Removed)