RECORDED TELEPHONE DICTATION TRUNK FOR USE WITH DIAL-TYPE PBXS OR CENTREX STATIONS GENERAL DESCRIPTIVE INFORMATION

CONTENTS PAGE

1. INTRODUCTION

General

1.01 This section describes the recorded telephone dictation trunk which provides a means of connecting a dial-type PBX station, a centrex station, or a TOUCH-TONE station to a customer's recorded dictation facilities. The trunk is designed

to operate with either dial pulse or voice controlled dictation machines. The trunk is arranged to control the start-stop, correction, playback, end of playback, cancellation of playback, and end of dictation functions of the dictation machine. A means for calling the dictation machine attendant for assistance is also provided. The signals interchanged with the customer equipment are in accordance with the American Standard Associations requirements.

1.02 This section replaces information formerly covered in Section 981-260-100.

1.03 This section is reissued for the following reasons:

(a) To provide coverage for an acknowledgement tone when the "correction" digit 2 or "end of message" digit 4 is dialed or keyed.

(b) To provide coverage for TOUCH-TONE calling features.

(c) To make minor revisions and to bring the section up to date.

Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

Field of Use

1.04 The recorded telephone dictation trunk is available to telephone company customers desiring recorded telephone dictation service using customer-owned dictation machines in association with a rotary dial or TOUCH-TONE switching system. Use of the trunk makes available to all stations a common pool of one or more customer provided dictation machines.

1.05 The recorded telephone dictation trunk is designed for use with the 701A, 701B, 711A, 711B, 740A, 740AX, 740B, 740C, 740E, 755A, 756A, 757A, 800A, the No. 5 Crossbar Centrex PBXs, the 400 Switching System, and the No. 101 Electronic Switching System.

Principle Features

1.06 The principle features of the recorded telephone dictation trunk are as follows:

(a) The trunk is designed to operate with either dial controlled or voice controlled dictation machines.

(b) No special telephone set or other apparatus is required at the dictator location.

(c) The trunk may be reached by dialing or keying a specific code from any PBX station. Direct key selection of the trunk from specific PBX stations is also available.

(d) Once the trunk has been seized, the dictator may summon (dial) and talk with the dictation machine attendant at any time during the dictation process.

(e) The trunk is arranged to automatically stop the dictation machine when the dictator hangs up.

(f) The dictator may correct, extend, stop, or cancel the remainder of playback at any time during the playback process, provided the customer's machine is capable of performing this feature.

(g) A 2-way sleeve repeater is available as part of the trunk which permits locating the trunk at a location remote from the PBX switching equipment.

(h) Automatic selection of an idle dictation machine is provided in the normal trunk hunting manner for the PBX.

(i) Busy tone is returned to the dictator when all dictation machines are in use.

(j) The trunk is universally wired so that all options may be obtained by local strapping performed by the telephone company.

(k) An attendant controlled playback (PB) key is available which permits the dictation machine attendant to start and stop the dictation machine during a period of extended playback, if this feature is provided in the customer equipment.

(l) An all-trunks-busy register is provided in some switching systems to record the number of times all dictation machines are busy.

(m) A "restriction of recording" feature is available in dial PBXs equipped with an attendant position which returns audible ringing tone to the dictator when the attendant connects to the dictator station line circuit.

(n) The trunk has been designed to work with both rotary dial and TOUCH-TONE PBX stations when both types of stations are provided in the same PBX.

(o) The trunk returns an acknowledgement tone when the correction digit 2 or end of message digit 4 is keyed or dialed.

Capacity

1.07 The number of recorded telephone dictation trunks (one required per dictation machine) is limited only by the capacity of the PBX switching system.

2. EQUIPMENT ELEMENTS

2.01 The J58827C recorded telephone dictation trunk unit (Fig. 1) is arranged to operate with rotary dial station sets. The J58827D recorded telephone dictation trunk unit (Fig. 2) is arranged to operate with both TOUCH-TONE and rotary dial station sets. A modification kit is available which permits the J58824C unit to be modified locally to operate with both TOUCH-TONE and rotary dial station sets. Both trunks are arranged to be sufficiently flexible in control functions to operate with either dial controlled or voice controlled dictation machines. A 2-way sleeve repeater is available as part of the trunk code (mounted as a separate unit) which permits locating the trunk at a location remote from the dial PBX switching equipment.

Rotary Dial Trunk Circuit

2.02 The rotary dial recorded telephone dictation trunk circuit (J58827C) provides a means of connecting a rotary dial PBX station to a customer-owned dictation machine. One trunk circuit is associated with each dictation machine and is reached from selector or selector-connector levels in step-by-step systems, or from auxiliary or tie trunk terminals in crossbar and electronic PBXs. Automatic selection of an idle machine is accomplished in the normal trunk hunting manner for the PBX.

2.03 Each rotary dial recorded telephone dictation trunk circuit consists essentially of a transformer, control relays, translating relays, and a rotary selector used as a digit counter. These components are mounted on a shop-wired unit consisting of three 2- by 23-inch mounting plates. These mounting plates may be relay-rack mounted in or near the PBX switching equipment or housed in apparatus mounting boxes with covers or equivalent, near the dictation machines.

2.04 The trunk leads to the dictation machine are terminated by the telephone company in a terminal box at a location designated by the customer or local telephone company requirements and instructions. Screw-type terminals properly stenciled for customer identification are provided for customer

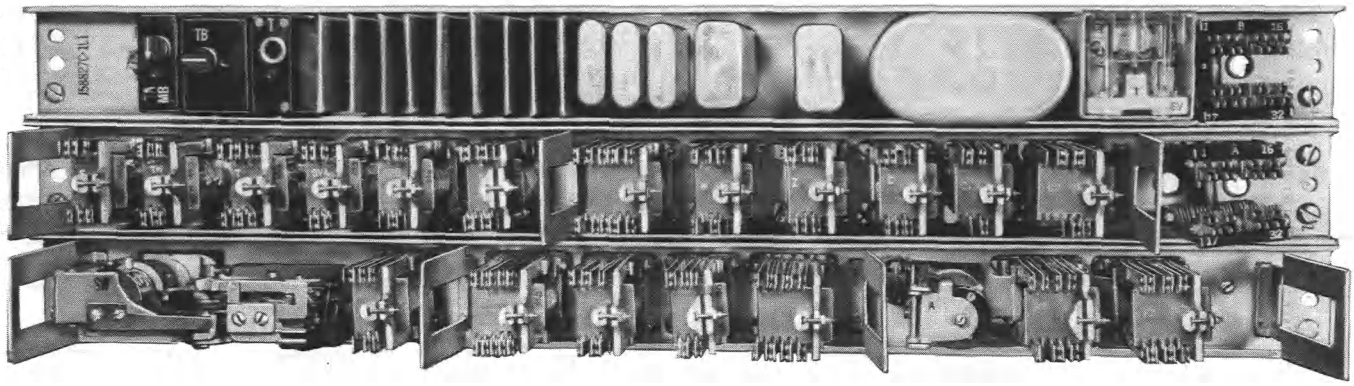

Fig. 1—Recorded Telephone Dictation Trunk—Rotary Dial—Front View

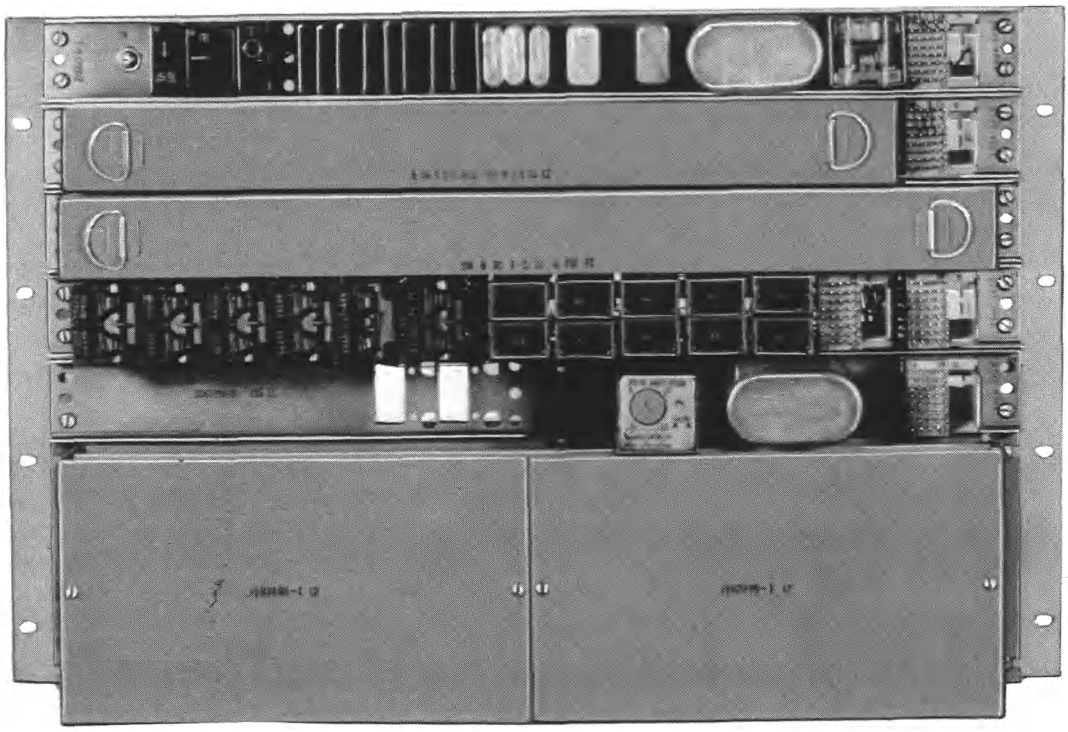

Fig. 2—Recorded Telephone Dictation Trunk—TOUCH-TONE—Front View

connections. The customer or a representative makes the required connections between the terminal box and the dictation machine.

2.05 Normally 24 conductors will be terminated by the telephone company at the terminal box. However, it may be possible for the customer to combine certain control functions to reduce the number of conductors required. When this is done, the telephone company may combine the trunk leads at some other point in the circuit and furnish at the terminal box only the number of conductors needed.

TOUCH-TONE Trunk Circuit

2.06 The TOUCH-TONE recorded telephone dictation trunk circuit (J58827D) provides a means for connecting a TOUCH-TONE PBX station to a customer-owned dictation machine. The TOUCH-TONE trunk circuit is essentially the same as the rotary dial trunk circuit except that additional components are required. These components are a precision tone generator, a fuse panel, and a TOUCH-TONE receiver with cabinet. The additional components are ordered separately or supplied by the telephone company. The TOUCH-TONE receiver and cabinet are ordered per J99289. Since the cabinet is arranged to accommodate two receiver assemblies, it is recommended that the cabinet be located between two corresponding dictation trunk units when mounted on a relay rack frame.

Sleeve Repeater

2.07 When the trunk unit is installed at a location remote from the switching equipment, a sleeve repeater may be required to assure satisfactory signaling. Two types of sleeve repeaters are available.

2.08 A one-way sleeve repeater is used when restriction of recording is not required. This repeater is made up locally and can be mounted on a key telephone unit mounting or equivalent.

2.09 A 2-way sleeve repeater is used when restriction of recording is required. This repeater is available as part of the trunk code. It is arranged on one 2- by 23-inch mounting plate and is mounted as a separate unit.

Dictation Machine Attendant Telephone Set

2.10 The trunk is arranged to connect with a telephone set, usually a keyset, provided by the telephone company at the dictation machine location. An attendant controlled playback (PB) key is available for use with the attendant telephone set. When desired, the key is ordered separately and mounted as directed by the customer.

Power Supply

2.11 The trunk may be operated using the -48 volt PBX battery supply. When used with a 755A PBX or an electronic PBX which does not contain -48 volt battery, a 48-volt rectifier plant or equivalent is required.

3. METHOD OF OPERATION

Seizure

3.01 The dictation trunk is seized when the station user (dictator) goes off-hook and dials or keys the dictation trunk access code. If the dictation machine is dial controlled, a continuous audible ringing tone or steady dial tone is returned indicating that the dictation machine has been seized. If the dictation machine is voice controlled, a spurt of tone is returned indicating that the dictation machine has been seized. If trunk seizure is unsuccessful, a busy tone is returned indicating an all-trunks-busy condition.

Start

3.02 To start the dial controlled dictation machine the dictator dials or keys the start code digit 1. To start the voice controlled dictation machine the dictator speaks into the handset.

Playback

3.03 To play back a portion of the recording, the dictator dials or keys the playback code digit 3. The length of playback depends upon the arrangement provided by the customer's machine. The dictator can extend the length of playback by dialing or keying the playback code digit 3 several times in succession.

Correction

3.04 To make a correction the dictator dials or keys the correction code digit 2. This correction may be a punch on an associated indicator strip at the dictation machine or a blank space on the recording medium. A short spurt of dial tone is returned indicating that a correction mark has been made by the machine.

End or Cancel of Playback

3.05 When provided, the dictator may end or cancel the remainder of playback by dialing or keying the code digit 1. The dictator may continue dictation by dialing or keying the start code digit or by speaking into the handset depending upon the type of dictation machine being used.

End of Dictation

3.06 To indicate the end of dictation the dictator dials or keys the end of dictation code digit 4. A short spurt of dial tone is returned, indicating that an end of dictation mark has been made by the machine. The trunk and dictation machine remain in a seized condition.

Dictation Machine Attendant

3.07 To summon the dictation machine attendant, the dictator dials or keys the assistance code digit 0. Audible ringing tone is returned to the dictator until the dictation machine attendant answers. If the dictation machine attendant does not answer, the dictator may stop the ringing by dialing or keying the code digit 1. The trunk and dictation machine remain in a seized condition. Conversations between the dictator and the dictation machine attendant are not recorded by the dictation machine since the machine is automatically stopped when the dictator dials or keys the digit 0.

3.08 If the dictator dials or keys the assistance code digit 0 before playback is initiated, the audio leads to the dictation machine are terminated and the dictator talking circuit is connected to the dictation machine attendant talking circuit. When the dictation machine attendant answers, the dictator and attendant use the dictation trunk as a talking path.

3.09 If the dictator dials or keys the assistance code digit 0 while playback is initiated, the dictation machine is conditioned so that the attendant may control playback while connected with the dictator. The machine attendant may initiate

playback or cancel playback by momentary operations of the attendant controlled playback (PB) key.

3.10 When the dictation machine attendant hangs up after a call for assistance, the audio leads of the trunk are disconnected from the attendant line and reconnected to the dictation machine. The trunk and dictation machine remain in a seized condition.

Release

3.11 When the dictator hangs up, the dictation trunk automatically releases and stops the dictation machine. The trunk may also be arranged to automatically mark an end of message upon disconnect. If both the dictator and machine attendant are connected to the dictation machine and the dictator hangs up, the trunk and dictation machine are held in a seized condition until the machine attendant hangs up.

Dictation Machine Available

3.12 If the dictation machine becomes unavailable while the dictation trunk is idle, the dictation trunk is made busy. If the dictation machine becomes unavailable while the trunk is busy (seized condition) the trunk is held busy and the dictation machine attendant is automatically called in. When desired, audible ringing tone can be returned to the dictator as an indication that the machine attendant is being called in. This feature is provided on an optional basis.

Restriction of Recording

3.13 When the trunk is used with a dial PBX equipped with an attendant position, audible ringing tone is returned to the dictator when the attendant connects to the dictator's station line circuit indicating that the recording has been interrupted and that the PBX attendant has connected to the circuit.

4. CIRCUIT OPERATION

Seizure

4.01 The recorded telephone dictation trunk (Fig. 3) is arranged to operate upon seizure if the customer dictation machine is transmitting a ground signal. If no ground signal is transmitted the trunk will test busy. If all of the dictation trunks in the PBX are busy, PBX busy tone will be returned to the dictator. The dictation trunk may be seized by the dictator only when the dictation machine is idle and ground is being transmitted to the trunk by the dictation machine.

4.02 The dictation trunk circuit functions when a station user (dictator) dials or keys the dictation trunk access code. The circuit responds to the trunk access code to make the trunk busy to all other incoming calls and sends a seizure signal to the dictation machine. If the dictation machine is dial controlled, the trunk circuit returns an audible signal (continuous ringing or dial tone) to the dictator indicating that the dictation machine has been seized. Thereafter, whenever the dictation machine is signaled to stop, dial tone of reduced level is returned to the dictator. If the dictation machine is voice controlled, the machine removes the "talk down" tone when voice signals are detected indicating to the dictator that the dictation machine has been seized.

Rotary Dial Pulsing

4.03 When the 1-digit control codes shown in Table A are dialed into the dictation trunk, control relays release and operate in response to the dialed pulses. Each operation of the control relays causes the select magnet of the rotary selector to operate, moving the selector wipers one step. At the end of each train of pulses, the control relays energize the selector wiper to send control signals to the dictation machine through the operation of the translating relays.

TOUCH-TONE Signaling

4.04 When the 1-digit control codes shown in Table A are keyed into the dictation trunk, the keyed signals are passed by the tip and ring leads of the trunk through the 227B amplifier to the TOUCH-TONE receiver. Translation of the two-out-of-eight code to one-out-of-ten code signals is performed by the TOUCH-TONE translating relays. The one-out-of-ten code signals operate the TOUCH-TONE digit relays which operate the translating relays controlling the operation of the dictation machine.

4.05 Since the dictation machine is recording during dictation, it will record the incoming TOUCH-TONE control signals originated by the dictator. A relay time delay circuit is provided to

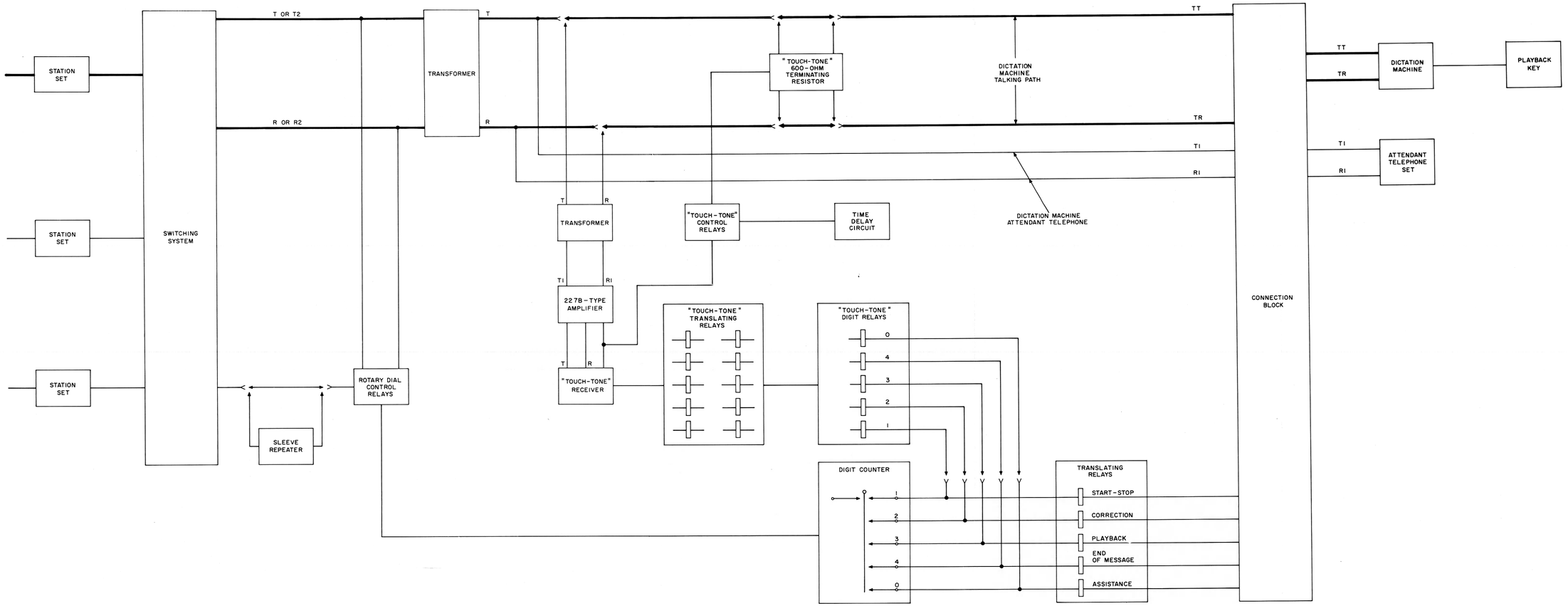

Fig. 3—Recorded Telephone Dictation Trunk—Block Diagram

TABLE A — DICTATION TRUNK CONTROL FUNCTIONS

DIGIT DIALED	DIAL CONTROL MACHINE	VOICE CONTROL MACHINE
1	Start-Stop	Cancel remainder of playback
	Stop ringing of attendant when attendant does not answer	Stop ringing of attendant when attendant does not answer
	End or cancel of playback	End or cancel of playback
2	Correction	Correction
		Reduce extended playback
3	Playback	Playback
4	End of Dictation	End of Dictation
0	Assistance	Assistance

prevent the recorded control signals from appearing as legitimate TOUCH-TONE control signals at the receiver during playback.

Start-Stop

4.06 When the start-stop control code digit 1 is dialed or keyed, a signal is sent to the translating relays. On alternate dialing or keying operations the start-stop signals are sent to the dictation machine. The dictation machine acknowledges receipt of the start signal by removing the audible seizure signal. The dictator may then begin to dictate. The start-stop signal will continue to be applied to the dictation machine until a start-stop or another control signal is keyed or dialed or the dictator hangs up.

Correction

4.07 When the correction control code digit 2 is dialed or keyed, a signal is sent to the translating relays. In response to this signal, the trunk returns an acknowledgement tone to the dictator indicating that the correction has been made. The dictation machine may indicate the correction by punching an associated indicator strip or leaving a blank space on the recording medium.

Playback

4.08 When the playback control code digit 3 is dialed or keyed, a playback signal is sent to the translating relays. The length of playback depends upon the arrangement provided by the dictation machine. If a signal indicating that playback has been completed is returned by the dictation machine, the trunk will send a stop playback signal to the dictation machine. The dictator may then continue to dictate by dialing or keying the start digit 1. If the dictation machine is voice controlled, the dictator may resume dictating by speaking into the handset.

4.09 If the dictation machine does not return an end-of-playback signal, the trunk will maintain the playback condition until the dictator dials or keys the stop digit 1. The stop digit 1 must be dialed or keyed with voice controlled dictation machines.

End of Dictation

4.10 When the end-of-dictation control code digit 4 is dialed or keyed, an end-of-dictation stop signal is sent to the translating relays. The trunk is still held in a seized condition and is released when the dictator hangs up.

Assistance

4.11 When the assistance control code 0 is dialed or keyed a stop signal is sent to the translating relays. At the same time, ringing is applied to the dictation machine attendant telephone set and audible ringing tone is returned to the dictator. When the dictation machine attendant answers, ringing is tripped and the dictation trunk talking path is transferred from the audio path of the

dictation machine to the dictation machine attendant telephone line.

Extended Playback

4.12 If extended playback is desired, the dictator dials or keys the assistance code 0 and requests the attendant to set the dictation machine back to the desired point manually. After setting the machine to the desired playback start point, the dictation machine attendant may start and stop playback by alternate operations of the attendant controlled playback (PB) key. The attendant and dictator may talk while playback is stopped. The audio leads to the dictation machine are disconnected while playback is stopped to prevent the conversation between the dictator and the attendant from being recorded by voice controlled dictation machines.

4.13 Formerly the attendant controlled playback (PB) key was not provided. It was necessary for the dictation machine attendant to hang up and the dictator to dial the control code digit 3 after the dictation machine had been set to the desired playback point. With this arrangement there was no provision for the dictation machine attendant and the dictator to talk over playback.

Disconnect

4.14 When the dictator hangs up, the trunk circuit is restored to normal and an end-of-dictation signal is automatically sent to the dictation machine.

Restriction Of Recording

4.15 If the PBX attendant should go over a busy condition and plug into or connect to a station line which is connected to a dictation trunk, the audio leads to the dictation machine are opened and an audible ringing tone is returned to the dictator.

Dictation Machine Unavailable

4.16 As long as the dictation machine is available, the dictation trunk will test idle. Should the dictation machine become unavailable while the trunk is idle, a ground signal is removed from the trunk by the dictation machine causing the trunk to test busy. If the trunk is busy and the dictation machine becomes unavailable, the trunk functions to call in the dictation machine attendant and return audible ringing tone to the dictator.

5. ALARMS

5.01 The recorded telephone dictation trunk provides for connections to the local PBX tone, ringing, and alarm circuit.

6. MAINTENANCE

6.01 A jack is provided at the trunk unit for access to the tip and ring of the trunk.

6.02 A make-busy (MB) key is provided for taking the trunk out of service. When the MB key is operated, the associated dictation machine will not be available for use.

6.03 Two test keys are provided, TA and TB. These keys are used in testing the supervisory (SV) relay and in extending the T and R leads to the dictation machine.