

## INTERCONNECTING DEVICES

### SELECTION AND GENERAL INFORMATION

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**1.02** This section is reissued to:

- Include additional connecting arrangements
- Update existing arrangements
- Provide related SD numbers where applicable
- Add new illustrations.

Due to extensive changes, marginal arrows have been omitted.

**1.03** The protective connecting arrangements, with the criteria published in the tariffs and in the technical reference, provide the necessary network protection to allow connection of customer-provided equipment (CPE) to the Bell System network. These arrangements are designed to provide telephone company control of the critical signaling, transmission, and switching functions of the network.

**1.04** For information on data access interconnecting arrangements, refer to Division 590.

**1.05** Customer requests for technical references should be referred to the local Telephone Company Business Office or the Marketing Representative.

**1.06** Table A provides Uniform Service Order Codes (USOC), Technical Reference numbers (PUB), section numbers, the interconnecting device, schematic drawing (SD) numbers where applicable, and a brief description of the arrangement-function.

**1. GENERAL**

**1.01** This section provides information for the identification and selection of interconnecting devices and general information on the associated equipment.

**NOTICE**

Not for use or disclosure outside the  
Bell System except under written agreement

## 2. EQUIPMENT FEATURES

## INTERCONNECTING UNITS, INTERFACE AND TRUNK UNITS AND COUPLERS

## A. Coded Units

**2.01 101A (MD) Interconnecting Unit**—An 8-inch circuit pack for use in the interconnection of a Bell System central office (CO) and a customer-provided PBX CO trunk where ground start signaling is required at the CO. This unit is intended to mount in a 604-type or 615A panel. (See Fig. 1.)

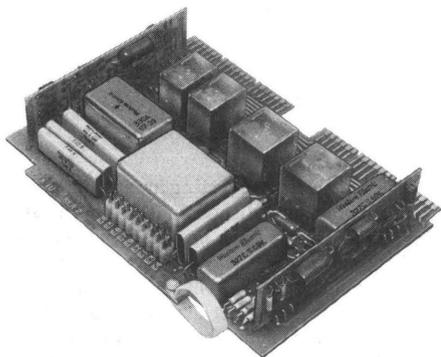


Fig. 1—101A (MD) Interconnecting Unit

**2.02 101B (MD) Interconnecting Unit**—An 8-inch circuit pack, an improved replacement version of the 101A. Provides line impedance matching and increases the range limitation to the CPE from 18 ohms to 100 ohms maximum on the supervisory leads. (See Fig. 2.) May be used with 75A control unit for data applications. Intended to mount in a 604-type or 615A panel.

**2.03 101C Interconnecting Unit**—An 8-inch circuit pack, an improved replacement version of the 101B. Provides line impedance matching to 600-ohm PBX trunk circuits and 600- or 900-ohm CO lines. (See Fig. 3.) May be used with 75A control unit for data applications. Intended to mount in a 604-type or 615A panel.

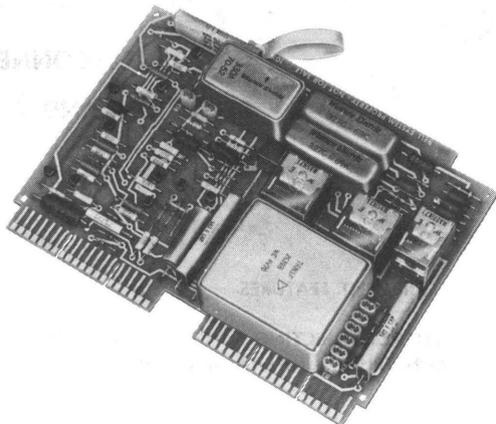


Fig. 2—101B (MD) Interconnecting Unit

**2.04 102A (MD) Interconnecting Unit**—An 8-inch circuit pack for use in the interconnection of a Bell System CO and a customer-provided PBX CO trunk where loop-start signaling is required. This unit is intended to mount in a 604-type or 615A panel. (See Fig. 4.)

**2.05 102B Interconnecting Unit**—An 8-inch circuit pack, an improved replacement version of the 102A. It provides line impedance matching and increases the range limitation to the CP equipment from 18 ohms to 100 ohms maximum on the supervisory leads. (See Fig. 5.) May be used with 75A control unit of data applications. Intended to mount in a 604-type or 615A panel.

**2.06 103A (MD) Interconnecting Unit**—An 8-inch circuit pack for use in providing percent break pulse correction where required for the CO trunk interconnecting units 101A and 102A. (See Fig. 6.) No longer required for 101- or 102-type IUs.

**2.07 105A Interconnecting Unit**—A console approximately 16-1/2 inches high, 13-1/2 inches wide, and 10-1/2 inches deep. It is equipped with one 599A key, two 598A keys, and one 8C dial. It is used in association with the 700A interconnecting service unit to provide 2-wire manual access between Bell System lines and a customer-provided manual PBX. (See Fig. 7.)

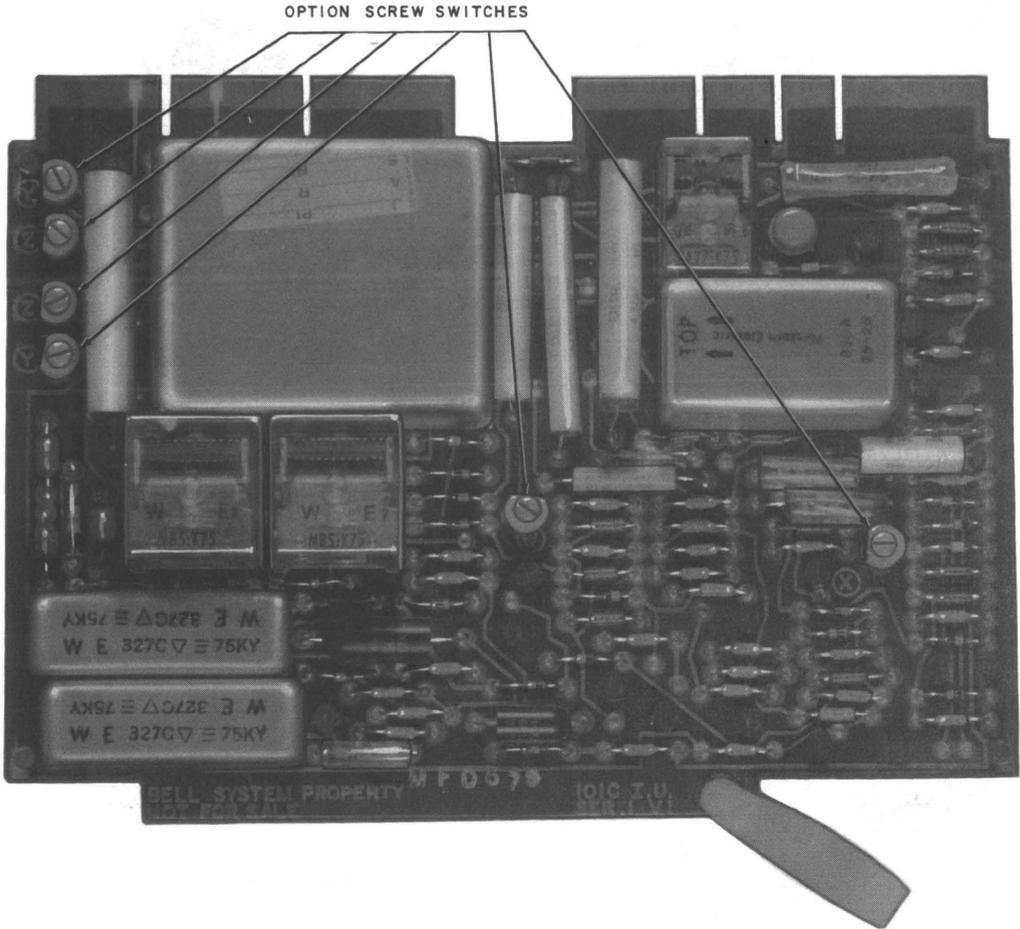


Fig. 3—101C Interconnecting Unit

**2.08 108A Interconnecting Unit**—A 4-inch circuit pack for use (a) in the interconnection of a Bell System CO line with a customer-provided manual cord switchboard with supervision (intended to mount in a 700A interconnecting service unit), or (b) in the interconnection of a Bell System CO line to a customer-provided one-way incoming trunk associated with the attendant position of a customer-provided PBX. For the latter application, the 108A interconnecting unit may be mounted in the 604-type or 615A panel. (See Fig. 8.)

**2.09 109A Interconnecting Unit**—A 4-inch circuit pack for use in the interconnection of a 1A2 KTS and a customer-provided audio source for use when the CO line is in the hold condition. This unit is intended to mount in a 69H apparatus mounting or 606A panel. (See Fig. 9.)

**2.10 110A Interconnecting Unit**—A 4-inch circuit pack for use in the interconnection of a cord switchboard or a 1A or 1A1 KTS and a customer-provided audio source for use when the

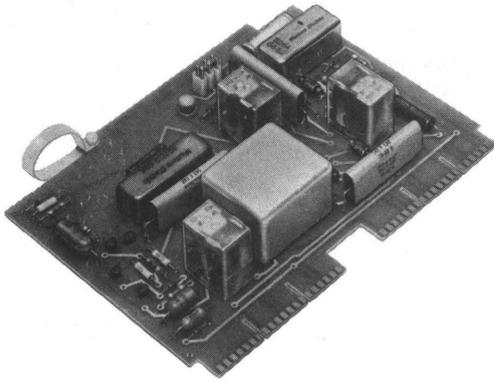


Fig. 4—102A (MD) Interconnecting Unit

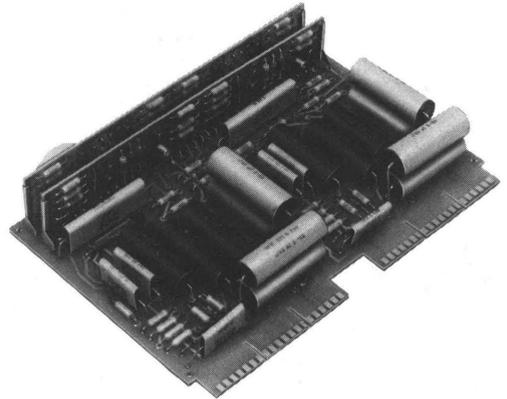


Fig. 6—103A (MD) Interconnecting Unit

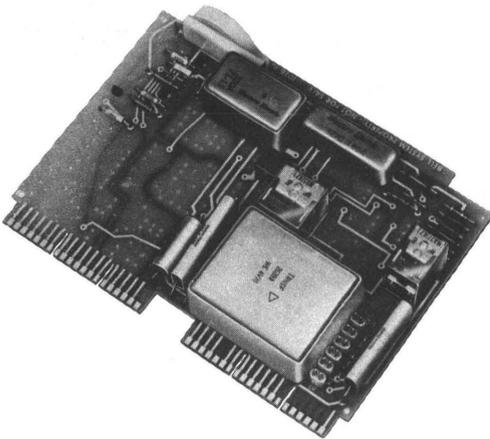


Fig. 5—102B Interconnecting Unit



Fig. 7—105A Interconnecting Unit (formerly F58015 [MD] Console)

CO line is in the hold condition. Intended to mount in a 69H apparatus mounting or 606A panel. (See Fig. 10.)

**2.11 111A Interconnecting Unit**—A 4-inch circuit pack for use in the interconnection of a Bell System CO line terminated on a key telephone set and customer-provided intercommunicating systems with or without supervision. This unit is

intended to mount in a 69H apparatus mounting or 606A panel. (See Fig. 11.)

**2.12 112A Interconnecting Unit**—An 8-inch circuit pack used to provide one-way direct-inward-dialing into a customer-provided PBX on a dial pulse basis. Intended to mount in the 607A panel. (See Fig. 12.)

**2.13 114A Interconnecting Unit**—A PICTURE-PHONE® connecting arrangement consisting of a voice coupler circuit and a video coupler circuit. It is 7-1/2 inches wide, 6 inches deep, and 12 inches long. (See Fig. 13.)

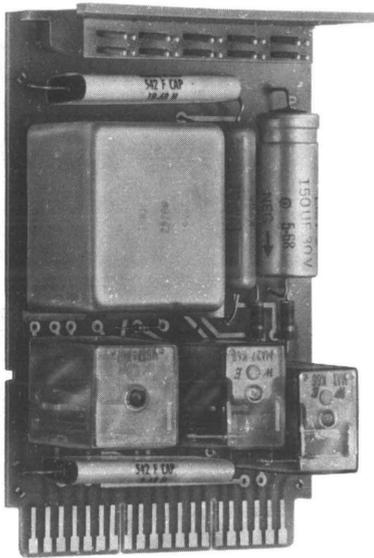


Fig. 8—108A Interconnecting Unit (formerly 433A [MD] KTU and F48004 [MD] KTU)

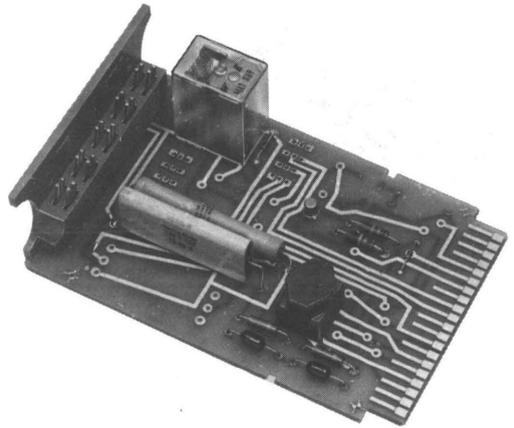


Fig. 10—110A Interconnecting Unit

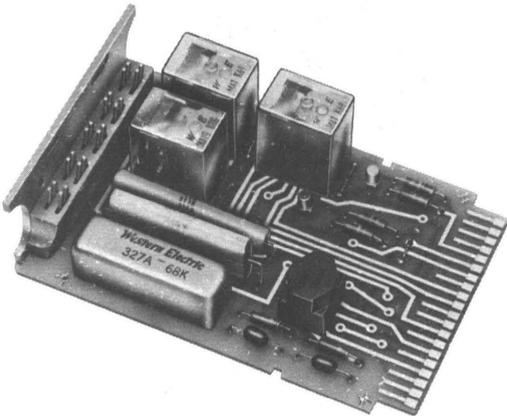


Fig. 9—109A Interconnecting Unit

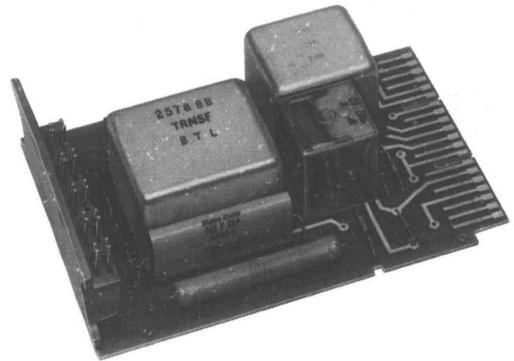


Fig. 11—111A Interconnecting Unit (formerly 432A [MD] KTU and F58006 [MD] KTU and F58007 [MD] 1U)

2.14 **117A Interconnecting Unit**—3-1/2 inches wide, 6 inches deep, and 7 inches long. One unit is required for every four lines. Used to

indicate the dc supervisory condition of a CO or tie line to CPE. Intended to mount in the 15A apparatus mounting; it can also be mounted on a 23-inch rack using 67B brackets. (See Fig. 14.)

2.15 **118A Interconnecting Unit**—6 inches wide, 8-1/2 inches deep, and 8 inches long, and consists of a 614A panel with an 8-inch HJ1 circuit pack. Provides automatic-identified-outward-dial capabilities to a customer-provided PBX. Intended

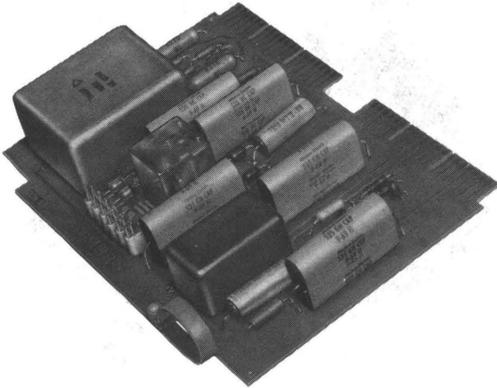


Fig. 12—112A Interconnecting Unit

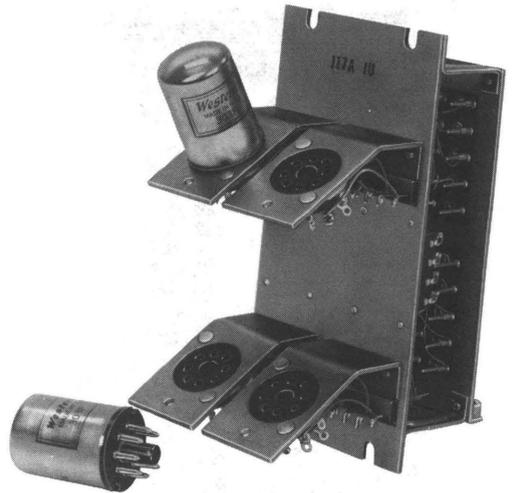


Fig. 14—117A Interconnecting Unit

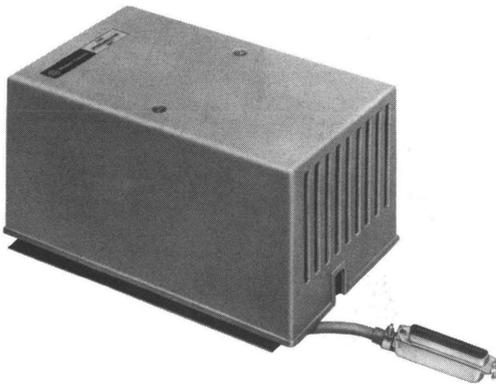


Fig. 13—114A Interconnecting Unit

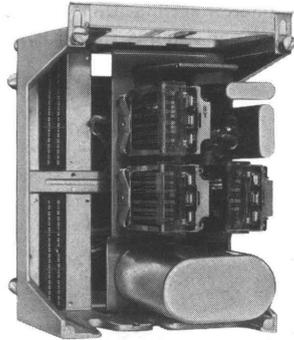


Fig. 15—118A Interconnecting Unit (614A Panel With HJ1 Circuit Pack)

to mount on a standard relay rack or in a 16C apparatus mounting using the 99B mounting bracket. (See Fig. 15.)

**2.16 119A Interconnecting Unit**—4-3/4 inches wide, 2 inches deep, and 7 inches long. Provides a 2-wire connection between customer-provided terminal equipment and Bell System metallic voice-grade private line facilities. Mounts on any wall or flat surface. (See Fig. 16.)

**2.17 120V Interconnecting Unit (MD)**—An 8-inch circuit pack used to connect a



Fig. 16—119A Interconnecting Unit

customer-provided KTS to a Bell System CO or PBX line on a 2-wire basis. Mounts in a 604-type or 615A panel. (See Fig. 17.)

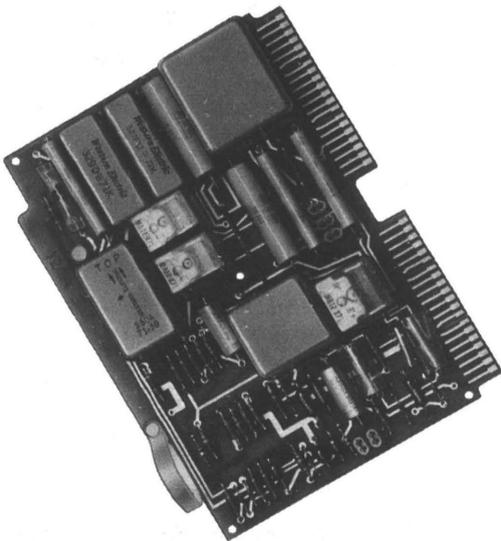


Fig. 17—120A Interconnecting Unit

**2.18 120B Interconnecting Unit**—An 8-inch circuit pack used to connect a customer-provided KTS to a Bell System CO or PBX line on a 2-wire basis. Mounts in a 604-type or 615A panel. (See Fig. 18.)

**2.19 122A Interconnecting Unit**—An 8-inch circuit pack used to provide access to a CO line for customer-provided call restriction equipment to detect off-hook, on-hook, and dialing signals on the line for outgoing calls. Transfers the originating station for the CO line to the CPE when signaled by the CPE. Permits the CPE to provide a restricted tone to the originating station. Detects CO ringing when circuit is in the call restricted mode. Forces cut-through of the station to the CO line on an incoming call when the station is in the call restricted mode. (See Fig. 19.)

**2.20 125A Interconnecting Unit**—Resembles a 66-type connecting block and provides up to 25 circuit connections which provide a connection between customer-provided traffic measuring equipment and Bell System station lines, PBX CO trunks, and tie lines. This equipment permits the CPE to detect on-hook, off-hook, dial pulse, TOUCH-TONE signals, call progress tones, and ringing signals on Bell System lines. (See Fig. 20.)

## B. Couplers

**2.21 23A Coupler**—Approximately 4 inches long, 2-3/4 inches wide, and 1-7/8 inches deep and is used to provide an interface between customer-provided dc dial pulse dialers (not to be used with TOUCH-TONE® dialers and CO or PBX station line). (See Fig. 21.)

**2.22 30B Voice Coupler**—Approximately 4-3/4 inches long, 2-3/4 inches wide, and 2 inches high and is used to provide 2-wire connection of customer-provided voice transmitting and/or receiving equipment to Bell System lines using a telephone set equipped with an exclusion key. Mounts on any flat surface. (See Fig. 22.)

**2.23 31B Voice Coupler**—Approximately 4-3/4 inches long, 2-3/4 inches wide, and 2 inches high and is used to provide a means of interconnecting a Bell System manual cord switchboard and a customer-provided dial intercom system. Mounts on any flat surface. (See Fig. 23.)

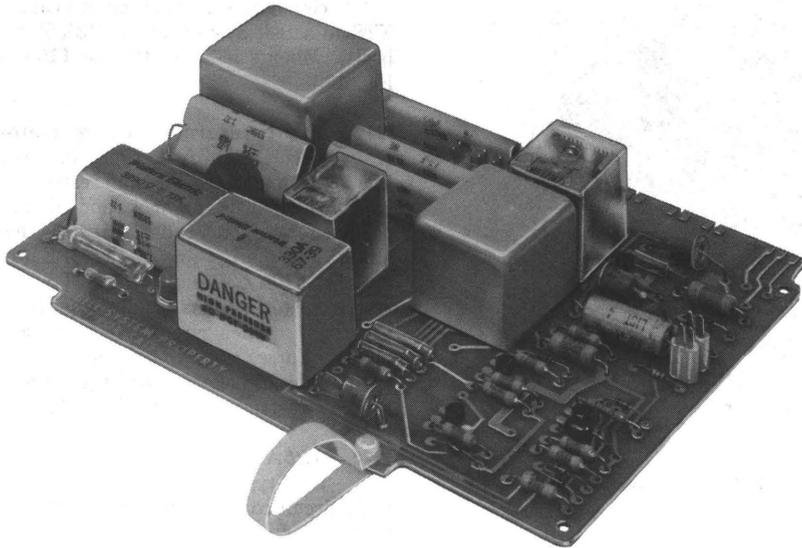


Fig. 18—120B Interconnecting Unit

**2.24 31C Voice Coupler**—Mounted on a metal base, equipped with a plastic cover and with overall dimensions of 4-3/4 inches long, 2-1/2 inches wide, and 2 inches high. The 31C is a general purpose voice coupler for application on voice-grade private line data channels which connect to customer-provided equipment. The circuit provides protection against longitudinal imbalance and hazardous voltages. (See Fig. 23.)

**2.25 32A Voice Coupler**—Permits a customer to connect voice transmitting or receiving equipment to a telephone company CO line through a jack and plug arrangement mounted in a telephone set. The coupler provides dc isolation and limits excessive signals. (See Fig. 24.)

**2.26 33A Voice Coupler**—Provides a high-fidelity connection between a customer-provided music or information source and the music-on-hold circuit and/or paging amplifier circuit in the 7A, 14A, or 21A Communication System for the music-on-hold feature and/or background music over the paging speakers when the paging circuit is not in use. (See Fig. 25.)

**2.27 34A Voice Coupler**—Approximately 4 inches long, 2-1/4 inches wide, and 2 inches high and provides a connection for music-on-hold between CO/PBX lines and a customer-provided music or information source which does not require a start signal. For use with Key Telephone Systems or 7A, 14A, and 21A Communication Systems. (See Fig. 26.)

#### C. J-Coded Interconnecting Units

**2.28 J53050A Interconnecting Unit**—Provides interconnection of the Bell System manual PBX switchboard with a customer-provided dial intercommunicating system with supervision. The apparatus is mounted on a 2- by 23-inch mounting plate, 1 circuit per unit, and is intended to be relay rack mounted. (See Fig. 27.) Replaces the F58005 (MD) interconnecting unit.

**2.29 J53050C Interconnecting Applique Unit**—Provides signaling for the interconnection of Bell System equipment and a customer-provided PBX dial repeating tie trunk circuit. The apparatus is mounted on a 4- by 23-inch mounting plate, 4

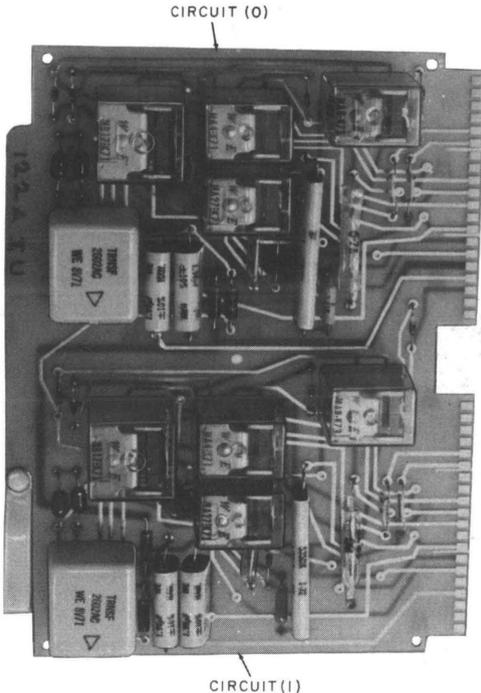


Fig. 19—122A Interconnecting Unit

circuits per unit, and is intended to be relay rack mounted. (See Fig. 28.)

**2.30 J53050D Interconnecting Unit**—Provides four voice coupler circuits for the interconnection of Bell System 2-wire private line facilities and a customer-provided 2-wire PBX. The apparatus is mounted on a 2- by 23-inch mounting plate, 4 circuits per unit, and is intended to be relay rack mounted. (See Fig. 29.)

**2.31 J53050E Interconnecting Unit**—Provides for the interconnection of a Bell System CO message register and customer-provided message registers. The apparatus is mounted on a 2- by 23-inch mounting plate, 10 circuits per unit, and is intended to be relay rack mounted. (See Fig. 30.) It replaces the F58356 (MD) interconnecting unit.

**2.32 J53050F Interconnecting Unit**—Provides connection via trunk level access between customer-provided dictation equipment, radio paging system or information retrieval system, and a Bell System PBX. The apparatus is mounted on a 2- by 23-inch mounting plate, 1 circuit per unit, and is intended to be relay rack mounted. (See Fig. 31.)

**2.33 J53050G Interconnecting Unit**—Provides for connecting customer-provided call diversion equipment to a Bell System CO trunk circuit equipped for reverse battery toll diversion associated with a Bell System PBX. The apparatus is mounted on a 2- by 23-inch mounting plate, 6 circuits per unit, and is intended to be relay rack mounted. (See Fig. 32.)

**2.34 J53050H Interconnecting Unit (MD)**—Replaced by 125A IU. Provides a connection between customer-provided traffic measuring equipment and Bell System station lines, PBX CO trunks and tie lines. The apparatus is mounted on a 2- by 23-inch mounting plate, 36 circuits per unit, and is intended to be relay rack mounted. (See Fig. 33.)

**2.35 J53050J Interconnecting Unit**—Provides an interface between a CO secretarial line and a one-way circuit associated with the CPE. The apparatus is mounted on a 4- by 23-inch mounting plate and is intended to be relay rack mounted. One J53050J,L1 will accommodate up to ten CO lines. (See Fig. 34.)

**2.36 J53050K Interconnecting Unit**—Provides a connection between CPE, call restricting equipment, and a Bell System CO trunk associated with a Bell System PBX. The apparatus is mounted on a 2- by 23-inch mounting plate and is intended to be relay rack mounted. One J53050K,L1 will accommodate two CO trunks. (See Fig. 35.)

**2.37 J53050L Interconnecting Unit**—Provides a voice-grade transmission path from PBX to CPE. For use on one-way outgoing ground start PBX CO trunks. The apparatus is mounted on a 4- by 23-inch mounting plate and is intended to be relay rack mounted. One J53050L will accommodate up to three CO trunks. (See Fig. 36.)

**2.38 J58827E Recorded Telephone Dictation Trunk Unit**—Provides connection between

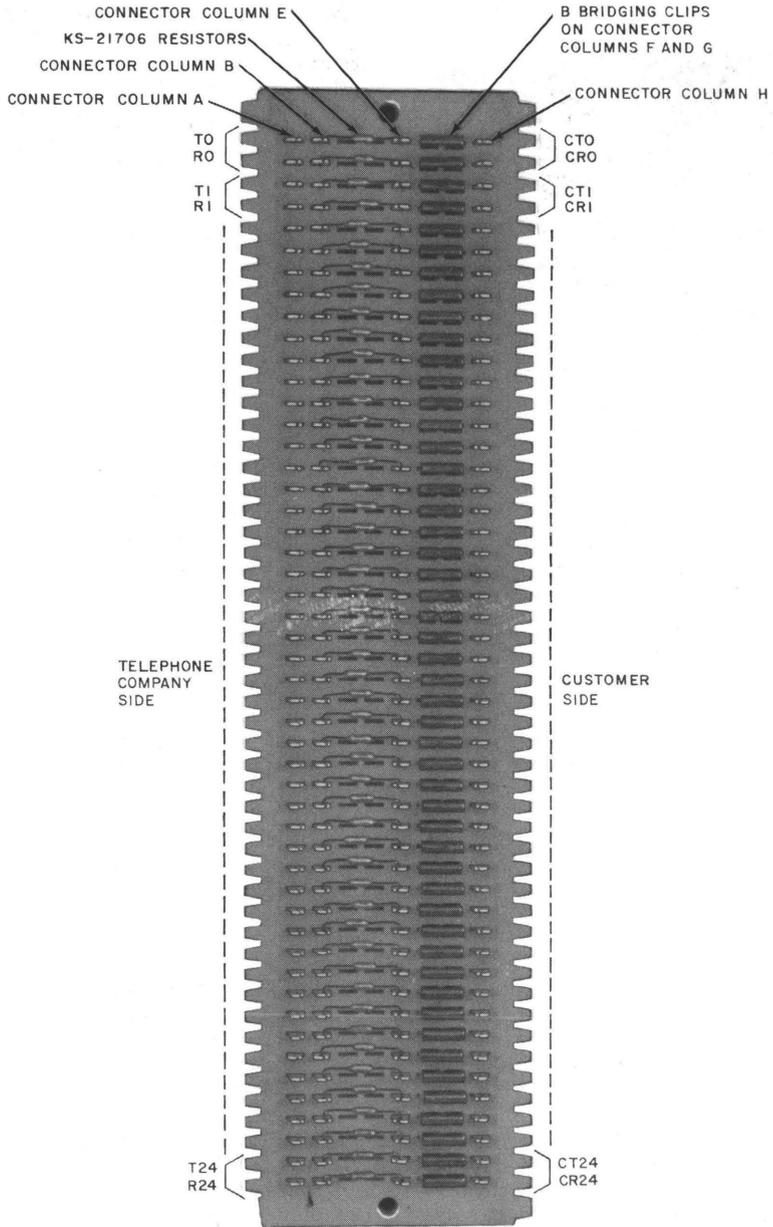


Fig. 20—125A Interconnecting Unit

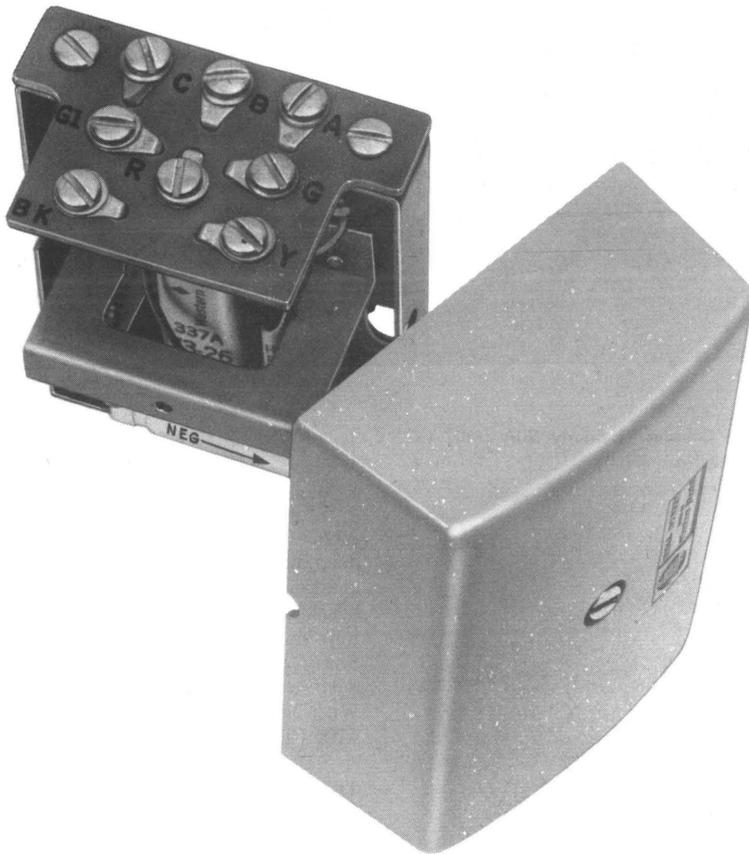


Fig. 21—23A Coupler

a Bell System PBX and customer-provided dictation equipment via a dial access code. The apparatus is mounted on a 4- by 23-inch mounting plate and is intended to be relay rack mounted. (See Fig. 37.) Additional equipment is required for TOUCH-TONE operation.

**2.39 J58824CD Interface Trunk Unit**—Provides connection between a Bell System PBX and customer-provided equipment via a dial access code. The apparatus is mounted on a 8- by 23-inch mounting plate and is intended for relay rack mounting. (See Fig. 38.) Additional equipment is required for TOUCH-TONE operation.

**2.40 J92614E Interface Unit**—Provides connection between Bell System traffic data register circuits and customer-provided monitoring equipment to furnish traffic usage data. Used with Bell System Automatic Call Distributing Systems (Types 2A and 3A). The apparatus is mounted on a 2- by 23-inch mounting plate and is intended for frame mounting. (See Fig. 39.)

#### D. KS-Coded Interconnecting Units

**2.41 KS-19522 Recorder Coupler**—An apparatus box 7 inches wide, 7-3/8 inches high, and 3-3/8 inches deep. The unit provides a mounting bracket assembly that will accommodate

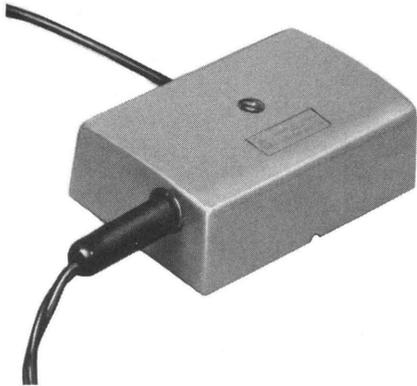


Fig. 22—30B Voice Coupler (formerly 30A [MD] VC and F57948 [MD] KTU)

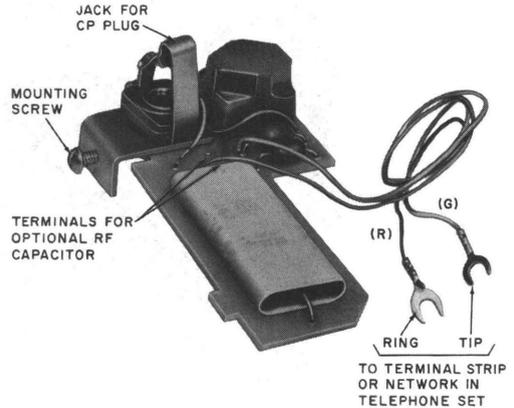


Fig. 24—32A Voice Coupler



Fig. 23—31B Voice Coupler (formerly 31A [MD] VC and F58008 [MD] KTU) or 31C Voice Coupler

two circuit boards. It is used with a telephone set to connect a customer-provided recorder for transmitting prerecorded messages and recording messages from the line. Not intended for recording 2-way conversations. Intended for wall mounting. (See Fig. 40.)

**2.42 KS-19645 Recorder Connector**—An apparatus box measuring approximately 7

inches wide, 7-3/8 inches high, and 3-3/8 inches deep and is intended for wall mounting. The unit contains a printed wiring board and mounting bracket assembly. It is used to provide “beep” tone on a Bell System CO line when recording a 2-way conversation over a Bell System network with a customer-provided recorder reproducer. With Service Center modification, it can be used with CP call duration timers. (See Fig. 41.)

**2.43 KS-20445 Control Unit**—Similar to the KS-19645 recorder connector and provides interconnection of customer-provided automatic dialing and message reproducing equipment to the Bell System CO line. Replaces the KS-20008 (MD) alarm coupler. (See Fig. 42.)

**2.44 KS-20721 Station Coupler**—A general purpose station coupler used to connect various types of customer-provided equipment to the telephone line. Measures approximately 9 inches square by 3 inches deep and is intended for wall or shelf mounting. Contains up to four printed circuit wiring boards. (See Fig. 43.)

**2.45 KS-20893 Multiline Station Coupler**— Provides for 2-wire voice connection between customer-provided conferencing equipment and Bell System 1A1 or 1A2 Key Telephone Systems. Measures approximately 8 inches square by 4-1/2 inches deep and is intended for wall or shelf mounting. Contains up to five plug-in printed

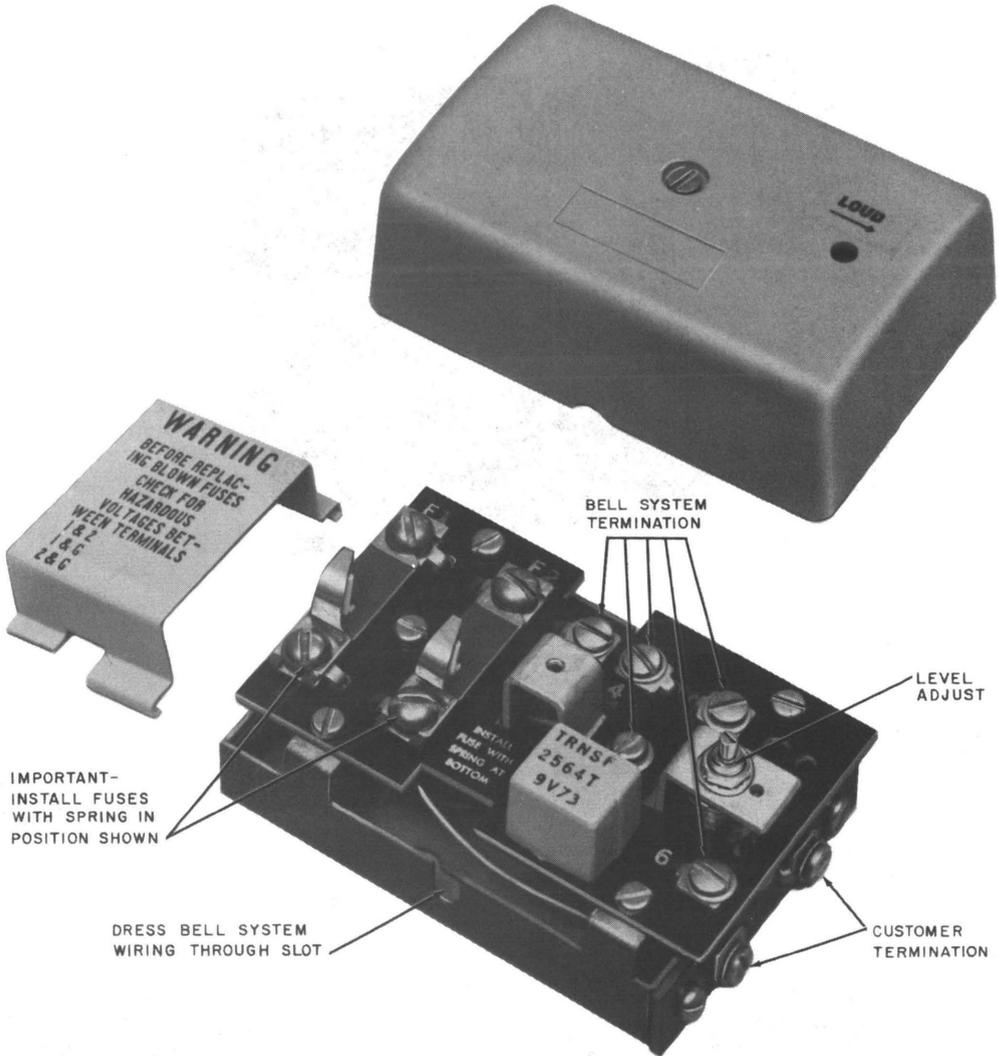


Fig. 25—33A Voice Coupler

circuit interconnecting units. The List 1 includes one L11 ISU and two L10 IUs. (See Fig. 44.)

**2.46 KS-21440 Coupler**—Provides a 2-wire interface between a telephone line and CPE,

such as answering sets, message recorders, dictation machines, etc. (See Fig. 45.)

**2.47 KS-21565 Switchboard Dial Coupler**—Provides access to the TOUCH-TONE dial circuit of a Bell System PBX switchboard for a

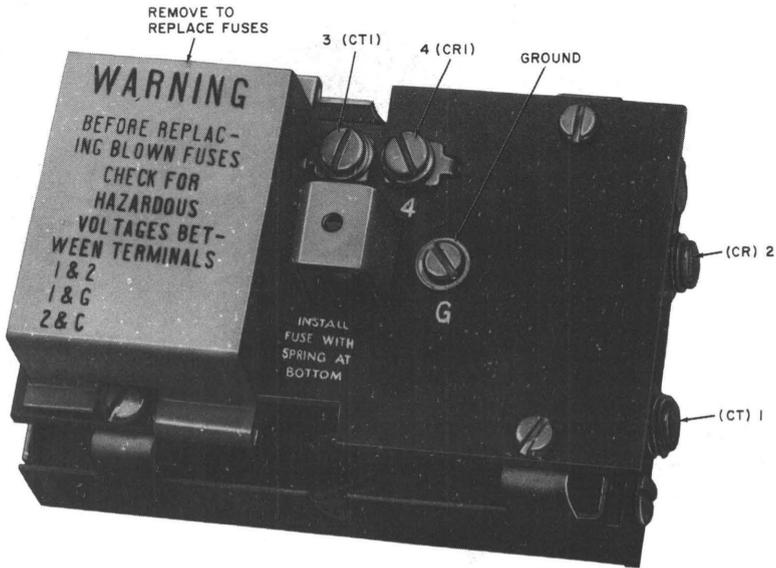


Fig. 26—34A Voice Coupler



Fig. 27—J53050A Interconnecting Unit (formerly F58005 [MD] IU)

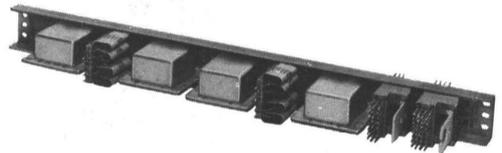


Fig. 29—J53050D Interconnecting Unit

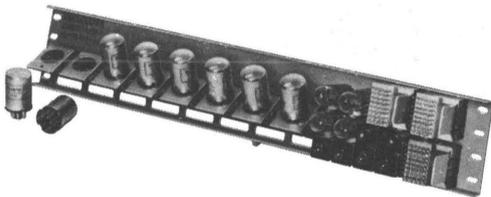


Fig. 28—J53050C,L2 Interconnecting Unit

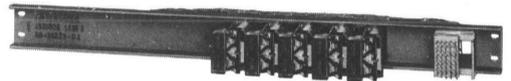


Fig. 30—J53050E Interconnecting Unit (formerly F58356 [MD] IU)



Fig. 31—J53050F Interconnecting Unit



Fig. 32—J53050G Interconnecting Unit



Fig. 33—J53050H Interconnecting Unit

line of a KTS installation by means of a telephone company-provided interface termination. (See Fig. 47.)

#### E. F-Coded Interconnecting Units

**2.49 F58010 (MD) Interconnecting Unit**—A console approximately 5-5/8 inches high, 10-1/2 inches long, and 6 inches deep. It is equipped with two rows of six 540G keys and one 8C dial. It is used to provide 2-wire access between Bell System lines and a customer-provided PBX equipped with a cord switchboard and not arranged for supervision. It is used in association with a 15D KTU. (See Fig. 48.)

#### ASSOCIATED EQUIPMENT

##### A. Panels

**2.50 604A Panel (MD)**—Approximately 23 inches wide by 16 inches high and 8-1/2 inches deep. Provides fusing and connections to

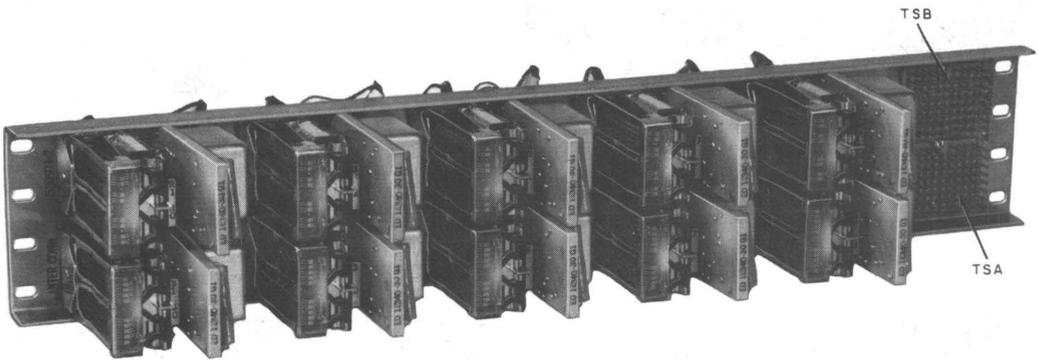


Fig. 34—J53050J Interconnecting Unit

customer-provided multifrequency tone address dialer. (See Fig. 46.)

**2.48 KS-21566 Adapter**—Permits direct electrical connection of a customer-provided conforming answering device incorporating Authorized Protective Connecting Module (APCM) to any one

the units for a maximum of fourteen 101-type or 102-type interconnecting units or eighteen 108A interconnecting units. It was used also for the 103A (MD) interconnecting unit, which is no longer required. All of the previous units may be accommodated in a given 604A panel. (See Fig. 49.) The 604A2 panel is equipped with a 19C2

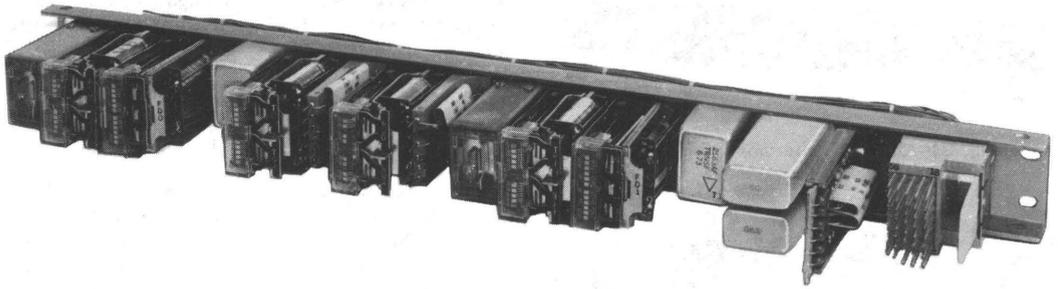


Fig. 35—J53050K Interconnecting Unit

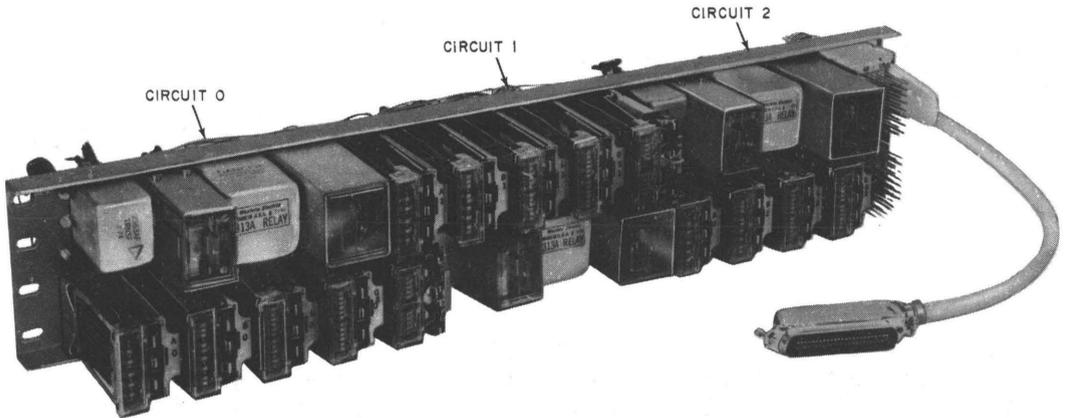


Fig. 36—J53050L Interconnecting Unit



Fig. 37—J58827E Recorded Telephone Dictation Trunk Unit

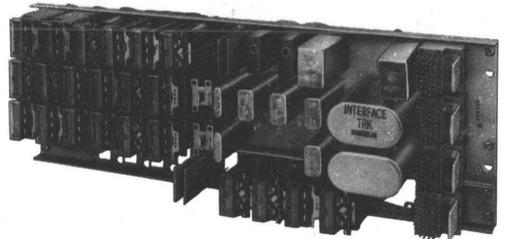


Fig. 38—J58824CD Interface Trunk Unit

power unit; the 604A1 panel is without a power unit.

2.51 **604B Panel (MD)**—Approximately 23 inches wide by 8 inches high and 10 inches

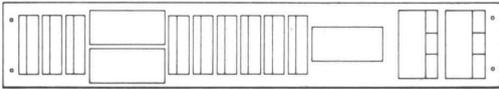


Fig. 39—J92614E Interface Unit



Fig. 40—KS-19522 Recorder Coupler

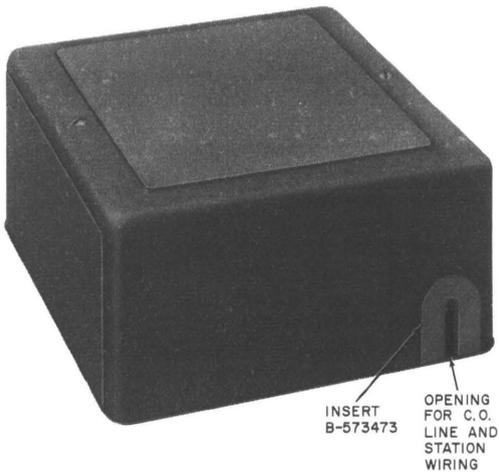


Fig. 41—KS-19645,L4 Recorder Connector



Fig. 42—KS-20445 Control Unit



Fig. 43—KS-20721 Station Coupler

deep. Provides fusing and connections for fourteen 101-type, 102-type, 108A or 120-type interconnecting units, or 12 IUs plus two 75A control units. Fuse protection is also provided for talk battery and ring supply. Option terminals are provided for 24-volt or 48-volt operation. Intended for relay rack mounting. (See Fig. 50.) Requires separate power supply.

**2.52 604C Panel**—Approximately 8 inches high by 23 inches wide and 10 inches deep. The carrier is equipped with 14 each 913A (20 pin) and 914A (40 pin) connectors for mounting 4- and/or 8-inch IUs (see Fig. 50). The 21A apparatus unit



Fig. 44—KS-20893 Multiline Station Coupler

is required to convert the 604C panel to -48V operation.

**2.53 606A Panel**—Approximately 6 inches wide by 8 inches high and 9 inches deep. Provides fusing and connections for six 109A, 110A, or 111A interconnecting units. Intended for relay rack mounting on a 99B bracket. (See Fig. 51.) Requires separate power supply.

**2.54 607A Panel**—Approximately 8 inches high by 23 inches wide and 10 inches deep. Provides fusing and connections for fourteen 112A interconnecting units. Intended for relay rack mounting. Requires separate power supply. (See Fig. 52.)

**2.55 615A Panel**—Approximately 8 inches high by 6 inches wide and 9-1/4 inches deep. Equipped with three 914A connectors in the upper row and three 913A connectors in the lower row. Three 8-inch IUs (101-, 102-, or 120-type) or six 4-inch IUs (108A) can be mounted in a 615A panel. (See Fig. 53.) Intended for relay rack or in a 16C apparatus mounting on a 99B bracket.

#### B. Apparatus Mountings

**2.56 69H Apparatus Mounting**—Approximately 8 inches high by 1-3/4 inches wide and 8-1/2 inches deep. Equipped with two connectors aligned vertically to mount one 101- or 102-type interconnecting unit (8-inch) or by adding the 834045908 (P-40V590) guide assembly; will mount one 108A interconnecting unit (4-inch) in upper connector. A plug on the rear accepts A25B connector cables. Mounts on a

standard relay rack or in a 16C apparatus mounting using the 99B bracket. (See Fig. 54.)

#### C. Service Units

**2.57 700A Interconnecting Service Unit**—Approximately 15 inches high, 9 inches wide, and 5-1/2 inches deep and is equipped with an apparatus mounting and six 20-pin connectors to house six 108A interconnecting units. The 700A2 unit is also equipped with a 28A1 plug-in type power unit which supplies 24-volt battery and ground. This unit is intended to be used in association with the 105A interconnecting unit. (See Fig. 55.)

#### D. Control Units

**2.58 75A Control Unit**—An 8-inch circuit pack used with 101B, 101C, and 102B interconnecting units. The 75A control unit provides automatic level control (ALC) over data/voice signal voltages applied to customer tip and ring of voice type interconnecting units. Each control unit contains six ALC circuits and may be plugged into position 13 of the 604B or 604C panel to control units 1 through 6, and position 14 to control units 7 through 12. (See Fig. 56.)

#### E. Protectors

**2.59 KS-20944 Protector**—Approximately 8 inches high by 6-3/8 inches wide and 3-3/4 inches deep. It is intended for wall mounting. Provides a dc interface between Bell System interconnecting arrangements and a customer-provided dc power supply. Designed to trip in 25 milliseconds (maximum) on overvoltage of 38 volts (24-volt unit) and 68 volts (48-volt unit), on overload of 18.75 amperes (15-amp unit) and 36 amperes (30-amp unit). Will trip on reversed polarity or ac voltage greater than 18 volts or incorrect power supply ground. (See Fig. 57.)

#### F. Test Sets

**2.60 142A Test Set**—Permits field testing of various multilead interconnecting units (IUs) by simulating the input from the customer-provided equipment. The test set can be used for installation and maintenance tests of the 101-, 102-, 108-, and J53053J-type IUs. Refer to Section 463-300-113 for specific details. (See Fig. 58.)

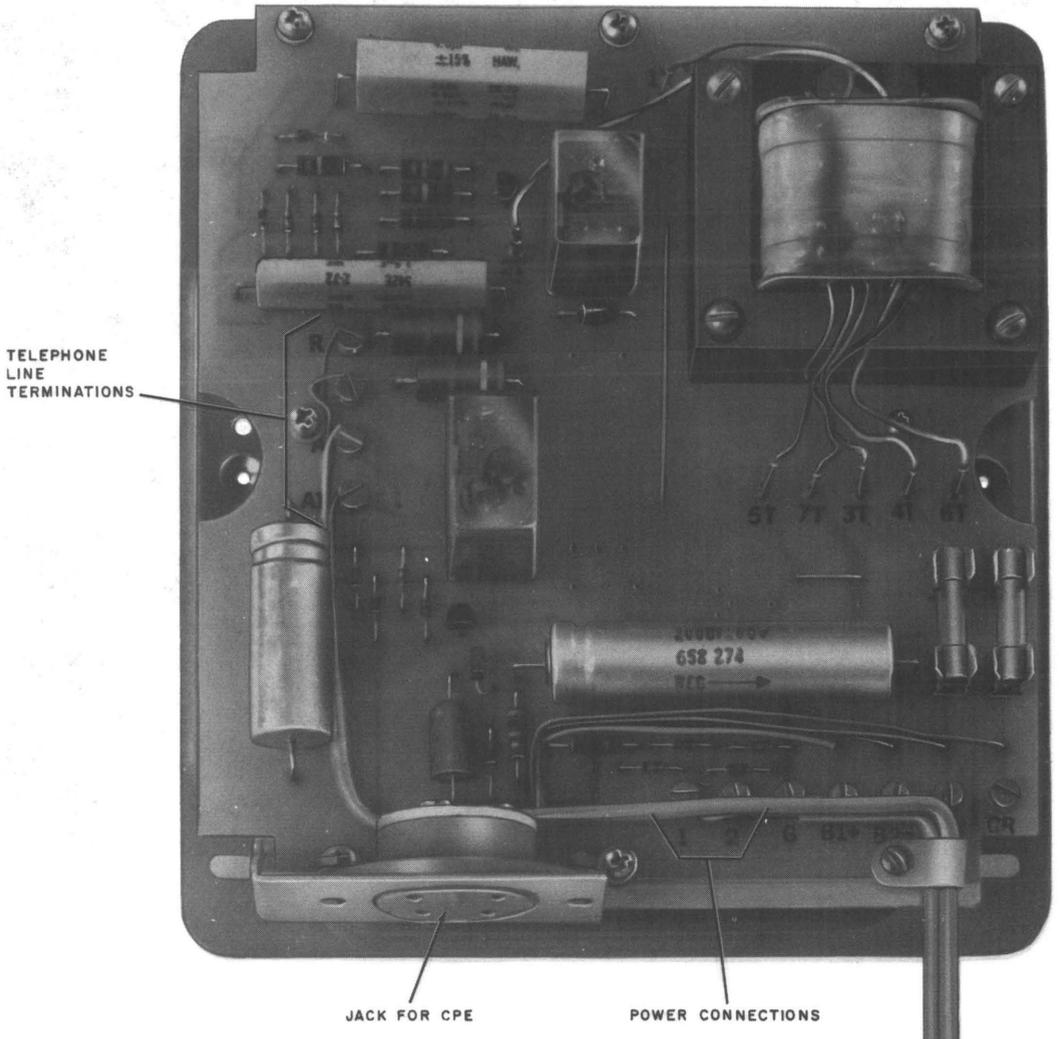


Fig. 45—KS-21440 Coupler

### 3. SELECTION

3.01 The associated apparatus and equipment used with the connecting arrangements are shown in Table A.

3.02 For detailed information on the various interconnecting devices, refer to the appropriate BSP.

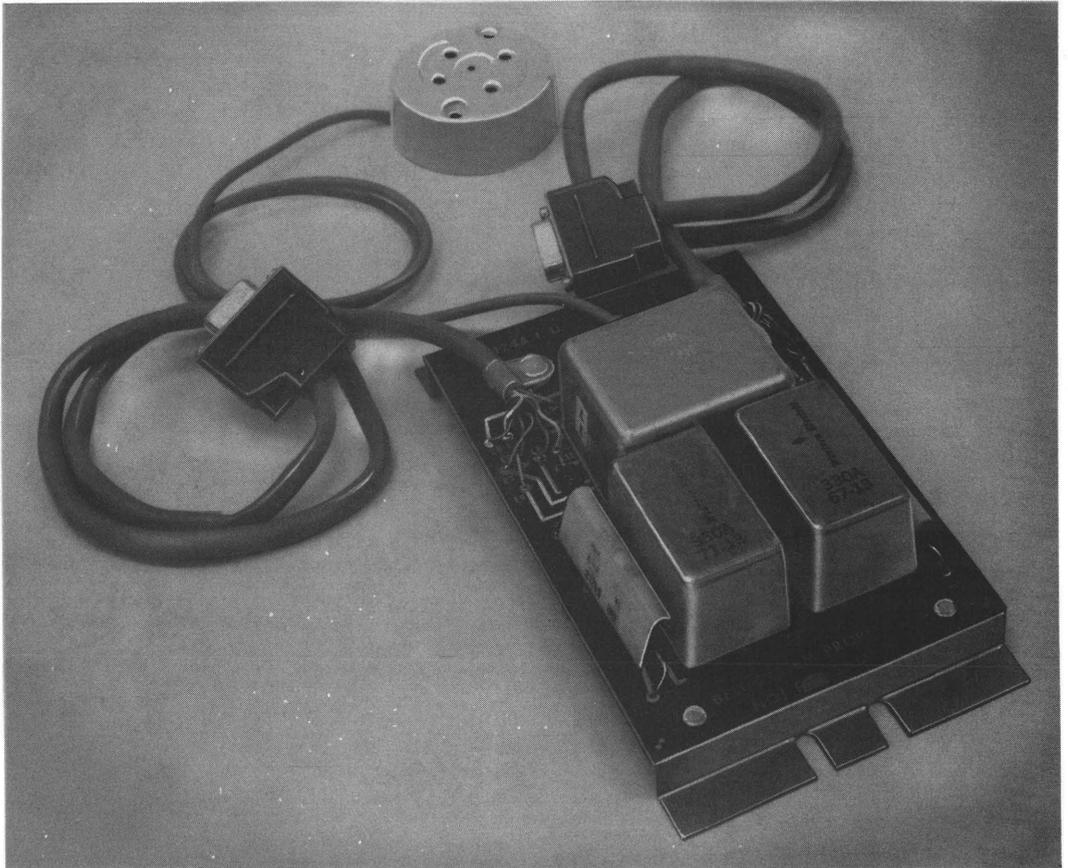


Fig. 46—KS-21565 Switchboard Dial Coupler

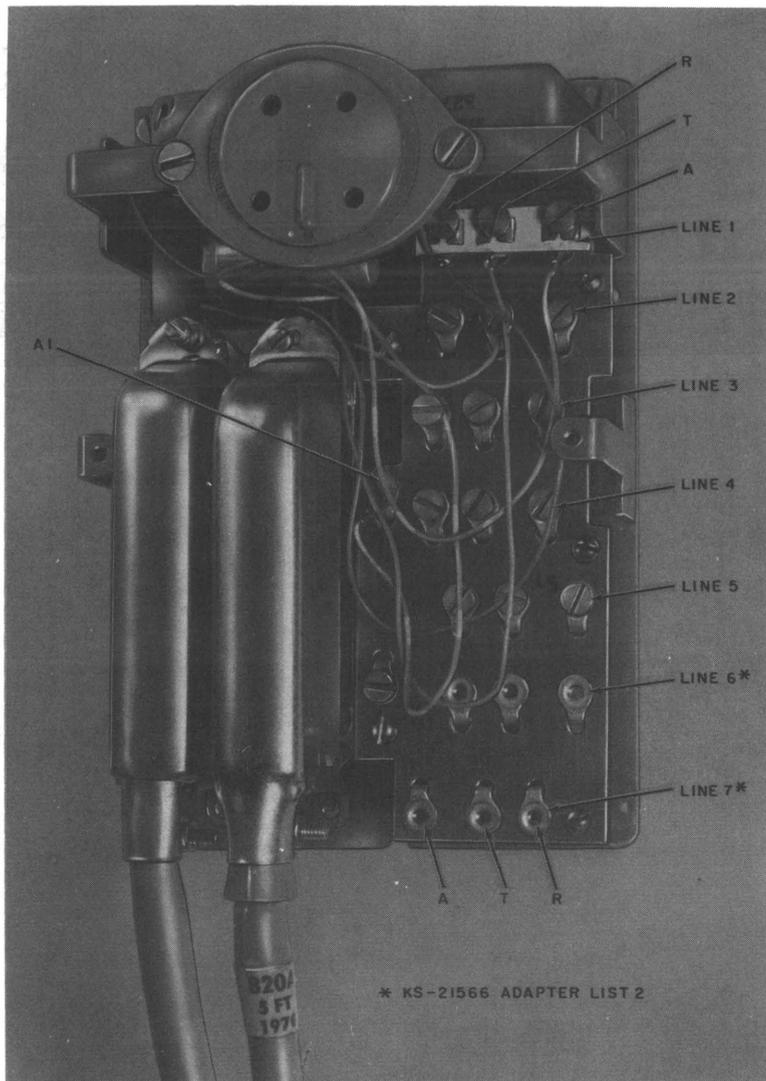


Fig. 47—KS-21566 Adapter

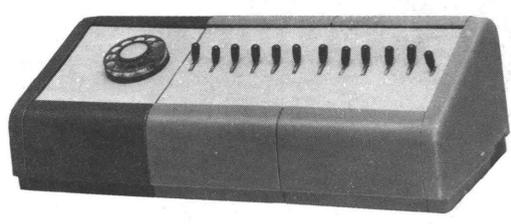


Fig. 48—F58010 (MD) Interconnecting Unit

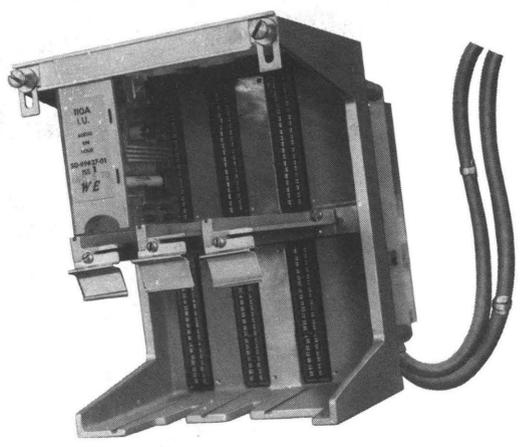


Fig. 51—606A Panel

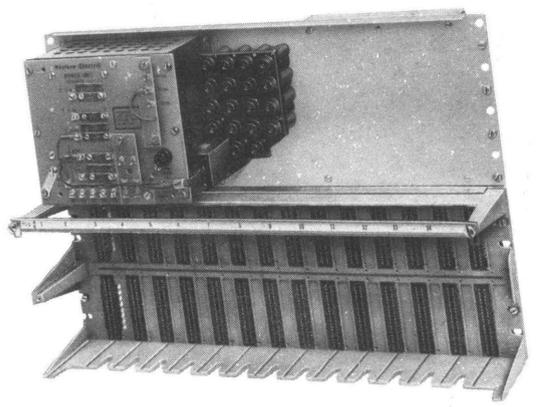


Fig. 49—604A-Type Panel (604A2 Shown)

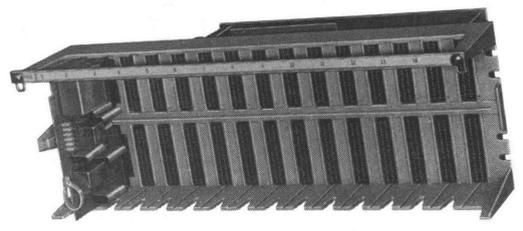


Fig. 52—607A Panel

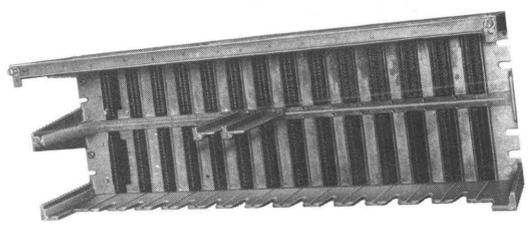


Fig. 50—604B (MD) or 604C Panel

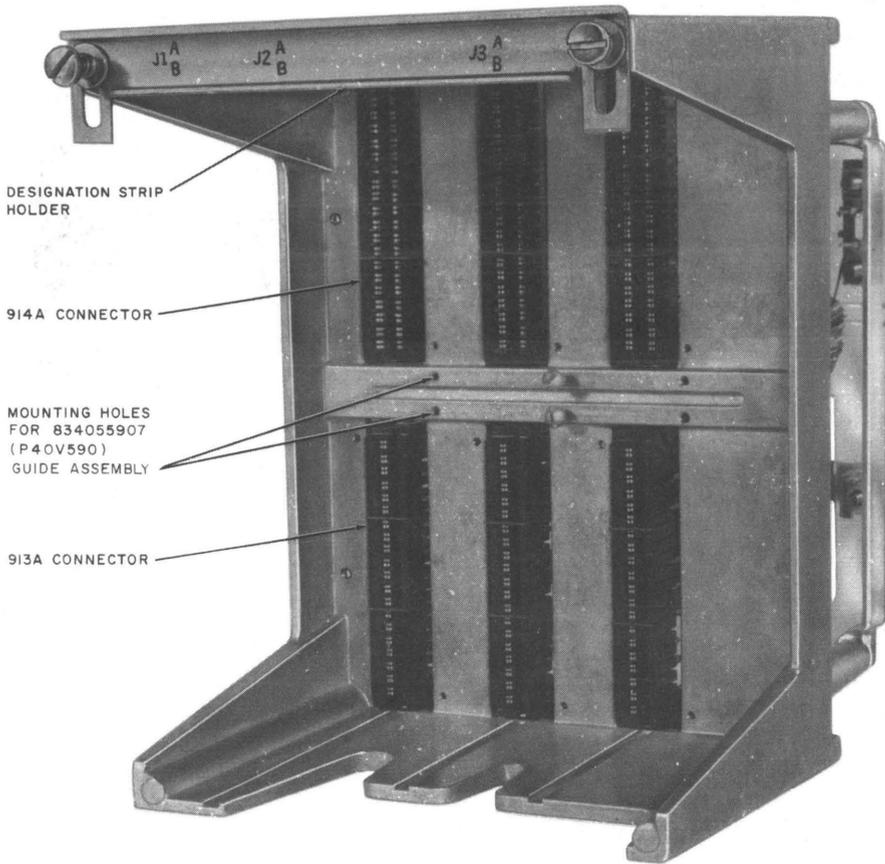


Fig. 53—615A Panel (Front View)

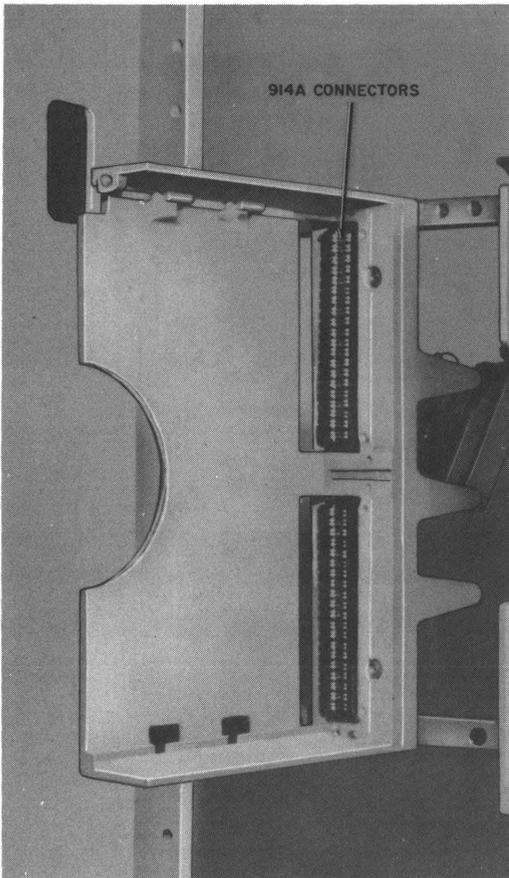


Fig. 54—69H Apparatus Mounting

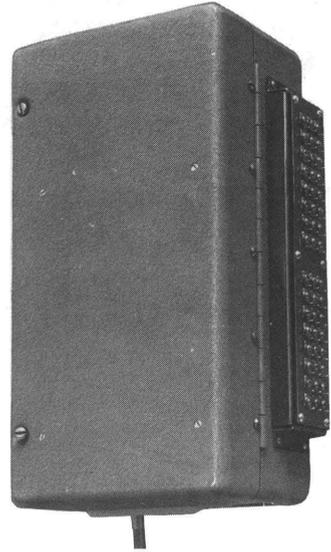


Fig. 55—700A Interconnecting Service Unit (formerly F58003 [MD] ISU)

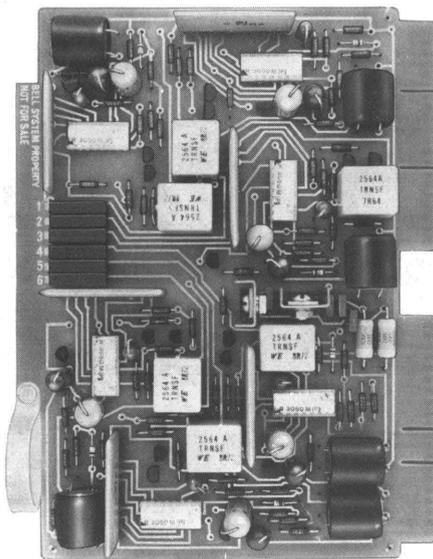


Fig. 56—75A Control Unit



Fig. 57—KS-20944 Protector

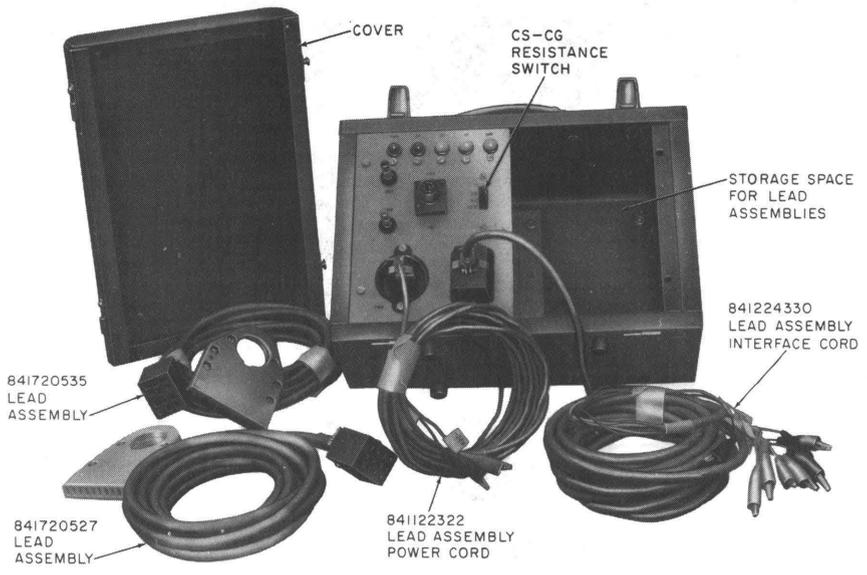


Fig. 58—142A Test Set

TABLE A

## INTERCONNECTING DEVICE APPLICATIONS

USOC	PUB NUMBER	SECTION NUMBER	INTERCONNECTING DEVICE	SCHEMATIC DRAWING	DESCRIPTION
AD1	42213	463-340-105	23A	SD-69912-01	Provides an interface between a customer-provided dc dial pulse dialer and a Bell System CO/PBX line.
CAU	42201	463-340-100	KS-20445	SD-69600-01	Permits dial pulse dialing and one-way outgoing transmission for use with customer-provided alarm signaling device.
CBF	42401 42402	463-300-112	75A Control Unit	SD-1E246	Used with CDH, CD7, CD8, CD9 to allow a customer to transmit data from behind a CP PBX.
CDA	42302	463-350-100	F58004 (MD)	SD-69611	Manually connects a cord switchboard position of a customer-provided system that provides supervisory signals to an exchange trunk line.
CDA	42302	463-350-101	108A		
CDB	42301	463-331-100	F58005 (MD)	SD-69612	Manually connects a line from a customer-provided dial intercom system that provides supervisory signals to an exchange trunk line through a Bell System-provided cord switchboard position.
CDB	42301	463-331-101	J53050A, L1		
CDH	42401	463-350-104	101-Type	SD-1E201-01 (101A) SD-1E238-01 (101B) SD-1E294-01 (101C)	Automatically connects an exchange trunk line arranged for 2-way combination (ground-start) service to and from the attendant position and from the dial switching equipment of a customer-provided system.
CDN	42303	463-300-140	F58006 (MD)	SD-69614-01	Manually connects a line from a customer-provided intercom system that provides supervisory signals to an exchange line through a Bell System-provided key station.
CDN	42303	463-311-103	111A		

TABLE A (Cont)

USOC	PUB NUMBER	SECTION NUMBER	INTERCONNECTING DEVICE	SCHEMATIC DRAWING	DESCRIPTION
CDQ2W	42502	463-360-101	J53050C, L1 (MD) or L3 J53050D, L1 J98605AG (MD) or AJ	SD-1E207-01 SD-97047-01 SD-1E206-01	Provides 2- or 4-wire tie line connection between Bell System facilities and customer-provided 2-way, 2-wire dial tie trunk designed for a contact-type signaling interface.
CDQ2X	42502	463-360-101	J53050C, L2 J53050D, L1 24V4 J98605AG (MD) or AJ	SD-1E207-01 SD-1E254-01 SD-97047-01	Provides 2-wire tie line connection between Bell System facilities and customer-provided 2-way, 2-wire dial tie trunk designed for an E&M type signaling interface.
CDQ4W	42501	463-360-100	J53050C, L1 (MD) or L3 44V4 J98605AG (MD) or AJ	SD-97047 SD-1E206-01	Provides 4-wire tie line connection between Bell System facilities and customer-provided 2-way, 4-wire dial tie trunk designed for a contact-type signaling interface.
CDQ4X	42505	463-360-100	J53050C, L2	SD-1E254-01 SD-97047-01	Provides 4-wire tie line connection between Bell System facilities and customer-provided 2-way, 4-wire dial tie trunk designed for an E&M type signaling interface.
CDX	42102	463-331-104	31B	SD-69614-01	Manually connects a customer-provided patching device that enables the connection of an incoming call on a trunk to a Bell System switchboard to an outgoing trunk from a Bell System switchboard.
CDY	42307	463-312-100	KTU Line Ckt	—	Terminates, without exchange connection, a line from a customer-provided system in a telephone company-provided key telephone station.

TABLE A (Cont)

USOC	PUB NUMBER	SECTION NUMBER	INTERCONNECTING DEVICE	SCHEMATIC DRAWING	DESCRIPTION
CD1	42304	463-300-110	F58010 (MD)	—	Manually connects a cord switchboard position of a customer-provided system that does not provide supervisory signals to an exchange trunk line.
CD4	42305	463-300-130	F58008 (MD)	SD-69613-01	Manually connects a line from a customer-provided intercom system that does not provide supervisory signals to an exchange trunk line through a Bell System-provided cord switchboard position.
CD4	42305	463-331-103	31B		
CD5	42306	463-300-150	F58007 (MD)	SD-69614-01	Manually connects a line from a customer-provided intercom system that does not provide supervisory signals to an exchange line through a Bell System-provided key telephone station.
CD5	42306	463-311-103	111A		
CD6	42404	463-350-105	108A	SD-69611-01	Automatically connects an exchange trunk line arranged for one-way incoming service to the attendant position of a customer-provided system.
CD7	42402	463-350-106	102-Type	SD-1E202-01 (102A) SD-1E238-01 (102B)	Automatically connects an exchange trunk line arranged for one-way outgoing service (loop-start) from the attendant position of a customer-provided system.
CD8	42402	463-350-106	102-Type		Automatically connects an exchange trunk line arranged for one-way outgoing service (loop-start) from the dial switching equipment of a customer-provided system.
CD9	42402	463-350-106	102-Type	—	Automatically connects an exchange trunk line arranged for 2-way service (loop-start) to and from the attendant position of a customer-provided system.

TABLE A (Cont)

USOC	PUB NUMBER	SECTION NUMBER	INTERCONNECTING DEVICE	SCHEMATIC DRAWING	DESCRIPTION
CEBAV	42106	463-311-106	111A	SD-69614-01	Permits the customer to manually connect and disconnect customer-provided equipment that answers an incoming call to a specific line terminated on a telephone company key set.
CEBAW	42107	463-311-106	111A		Permits the customer to manually connect and automatically disconnect customer-provided equipment to a specific line terminated on a telephone company key set.
CEBAX	42103	463-311-104	111A	SD-69614-01	Permits the customer to manually connect and disconnect customer-provided conferencing equipment to a specific line terminated on a telephone company key set. For use with customer-provided equipment with only one supervisory contact.
CEBBX	42103	463-311-104	111A		Permits the customer to manually connect and disconnect customer-provided conferencing equipment to a specific line terminated on a telephone company key set. For use with customer-provided equipment with two supervisory contacts.
CED	42405	463-350-107	101-Type	SD-1E201-01 (101A) SD-1E238-01 (101B) SD-1E294-01 (101C)	Automatically connects an exchange trunk line arranged for 2-way service, (ground-start), i.e., outward dialing by hotel/motel guests and ringback by the operator to the operator position of a telephone company long distance switchboard.
CEK	42601	463-380-100	J53050E F58356	SD-1E229-01	Connects customer-provided message registers, where the customer is providing the communications system and the necessary equipment to associate the station with the message registers, to a central office trunk message register circuit.

TABLE A (Cont)

USOC	PUB NUMBER	SECTION NUMBER	INTERCONNECTING DEVICE	SCHEMATIC DRAWING	DESCRIPTION
CET	42403	463-350-108	102-Type	SD-1E202-01 (102A) SD-1E238-01 (102B)	Automatically connects the dial switching equipment of a customer-provided PBX to a Bell System toll operator for toll terminal service (loop-start) without ringback.
CEZ	42211	463-311-108	KS-20893	SD-69952-01	Manually connects customer-provided conferencing equipment to Bell System Key Telephone System lines terminated on a 6-button plug-ended key telephone set or CALL DIRECTOR® set.
CTD	42605	463-382-101	J53050G	SD-1E245-01	Connects a customer-provided toll diverter to a central office trunk circuit equipped with reverse battery detection associated with a Bell System PBX.
CTH	42609	463-382-103	J53050K	SD-1E259-01	Connects customer-provided call diversion equipment to a Bell System CO trunk associated with a Bell System PBX.
C1V	42603	463-382-100	18D KTU	SD-69633-01	Provides line status information to customer-provided elapsed time or pen register equipment.
C1Y	—	463-380-102	J92614E	SD-99400-01	Provides for the connection of a customer-provided special purpose computer to the traffic data register circuits of the Force Administration Data System (FADS).
C2ACP	42207	463-341-100	102-Type	SD-1E202-01 (102A) SD-1E238-01 (102B)	Permits the automatic connection of customer-provided terminal equipment (typically key systems) to an exchange line or WATS access line, (loop-start).
C2AKS	42207	463-311-107	102-Type		Permits the automatic bridged connection of customer-provided equipment (typically call diversion or WATS extension equipment) to an exchange line or WATS access line (loop-start) to a line terminated on a Bell System station set.

TABLE A (Cont)

USOC	PUB NUMBER	SECTION NUMBER	INTERCONNECTING DEVICE	SCHEMATIC DRAWING	DESCRIPTION
C2H	42407	463-370-101	J53050C, L2 J98605AH	SD-1E254-01	Centrex application of C24 to connect customer-provided 4-wire facilities.
C2K	42408	463-370-102	J53050C, L2 J53050D, L1	SD-1E254-01 SD-1E207-01	Centrex application of C27 to connect customer-provided 2-wire tie line facilities.
C22	42406	463-350-109	112A	SD-1E240-01	Provides a connection to an exchange trunk line from customer-provided communications system for direct inward dialing (DID) service.
C232W	42504	463-360-103	J53050D 31B-49	SD-1E207-01 SD-69613	Provides 2-wire tie line connection between Bell System facilities and customer-provided 2-way, 2-wire tie trunks. No signaling is provided.
C234W	42503	463-360-102	44V4A	SD-97047-01	Provides 4-wire tie line connection between Bell System facilities and customer-provided 2-way, 4-wire tie trunks. No signaling is provided.
C24	42407	463-370-101	J53050C, L2	SD-1E254-01	Provides 2-wire tie line connection between Bell System PBX trunk circuit and customer-provided 4-wire facilities designed for E&M signaling interface.
C25	42604	463-380-101	118A	SD-1E239-01	Connects a customer-provided ANI System via a data link to a Bell System SIF for automatic identified outward dialing (AIOD) service.
C27	42408	463-370-102	J53050C, L2 J53050D, L1	SD-1E254-01 SD-1E207-01	Provides 2-wire tie line connections between Bell System PBX trunk circuits and customer-provided 2-wire facilities designed for an E&M interface.
DCK DCL	42703	463-332-100	J53050F	SD-1E255-01	Provides access to CPE on a trunk level basis from a Bell System PBX.

TABLE A (Cont)

USOC	PUB NUMBER	SECTION NUMBER	INTERCONNECTING DEVICE	SCHEMATIC DRAWING	DESCRIPTION
DCT	42701	463-332-110	J58827E	SD-5E038-01	Connects customer-provided dictation equipment to a Bell System PBX trunk level (recorded telephone dictation trunk circuit SD-5E038-01).
DCW	42702	463-332-120	J58824CD	SD-66926-01	Connects customer-provided radio paging equipment to a Bell System PBX trunk level (interface trunk circuit SD-66926-01).
FTM	42109	463-341-103	34A	SD-69911-01 SD-69922-01	Provides a connection for music-on-hold between a customer-provided music or information source and CO/PBX lines in a Key Telephone System. Uses a 451B KTU.
FTP	42108	463-341-102	33A	SD-69911-01	Provides a connection between a customer-provided music or information source and the music-on-hold and/or paging circuit in a 7A, 14A, or 21A COM KEY* System. Uses a 451B KTU.
GC2	42603	463-382-100	15D KTU	SD-69633-01	Provides line status information to customer-provided equipment when ringing is present on the line.
GTS	42214	463-340-112	KS-21440	SD-69918-01	Provides a 2-wire interface between a CO/PBX line and customer-provided answer-only equipment such as answering sets, message recorders, etc.
HZM	42606	463-382-102	J53059H, L1 or 125A	—	Provides line status information to customer-provided equipment through a high impedance interface.
JTA	46001	463-322-101	KS-21566 adapter	—	Permits direct electrical connection of a CP conforming answering device with an Authorized Protective Connecting Module (APCM) to any one line of a KTS.

TABLE A (Cont)

USOC	PUB NUMBER	SECTION NUMBER	INTERCONNECTING DEVICE	SCHEMATIC DRAWING	DESCRIPTION
JTC	45101	463-322-100	—	—	Provides an interface for the direct electrical connection of CP attested, nonpowered conferencing devices associated with a Bell System key telephone set.
KTX	42608	463-382-104	122A	SD-69659-01	Provides for connecting CPE such as call diverting equipment to a telephone company KTS.
LOH	42104	463-331-105	110A	SD-69627-01	Permits the connection of customer-provided background music or other recorded material to central office lines terminated in a telephone company-provided switchboard while the line is in the hold mode.
LVH	42105	463-311-105	109A 110A		Permits the connection of customer-provided background music, or other recorded material, to central office or PBX lines terminated in telephone company-provided key telephone set while the line is in the hold mode.
PFB	—	463-350-104	229B KTU 551A Key	SD-69631-01	Provides for automatic transfer of CO line from a CP telephone set to a Bell System telephone set when local power fails. Calls in progress while local power is out will be interrupted when local power is restored. During periods of local power, the Bell System telephone set will be inoperative.
PFC	—	463-350-104	229B KTU 551A Key	SD-69631-01	Provides for automatic transfer of CO line from a CP telephone set to a Bell System telephone set when local power fails. Calls in progress while local power is out will remain connected to Bell System equipment until the call is completed and then be automatically transferred back to CP equipment even though local power may resume during call.

TABLE A (Cont)

USOC	PUB NUMBER	SECTION NUMBER	INTERCONNECTING DEVICE	SCHEMATIC DRAWING	DESCRIPTION
PVF	44101	463-390-100	114A	SD-69904	Permits the connection of customer-provided video/audio terminal equipment to PICTUREPHONE <sup>®</sup> facilities using a telephone company-provided TOUCH-TONE <sup>®</sup> telephone set.
QKP	42101	463-311-109	32A	—	Permits a customer to connect voice transmitting or receiving equipment to a telephone company central office line through jack and plug mounted in a Bell System telephone set.
QKT	42101	463-311-100	30B	—	Manual connecting arrangement used for the connection of customer-provided equipment (typically phone patch equipment) to an exchange line through a Bell System-provided telephone set equipped with an exclusion key.
RCX	42603	463-382-100	117A	SD-69633-01	Provides line status and dial pulse information to customer-provided traffic measuring equipment.
RCZ	42205	463-340-120	KS-19645	SD-99414-01	Connects customer-provided recording equipment to a central office exchange line for the recording of 2-way conversations (KS-19645 recorder connector). Provides beep tone.
RC1	42206	463-340-120	KS-19645	SD-99414-01	Provides 1400 Hz tone to local party under control of customer-provided call duration timer. See RTT.

TABLE A (Cont)

USOC	PUB NUMBER	SECTION NUMBER	INTERCONNECTING DEVICE	SCHEMATIC DRAWING	DESCRIPTION
RDL	42204	463-340-110	KS-19522	SD-99356-01	Connects a customer-provided recorder/announcement machine to an exchange line for one-way recording or one-way announcements—not arranged for both at the same time (KS-19522 recorder coupler).
RDL	42204	463-340-111	KS-19522		Voice Connecting Arrangement RDL using a KS-16765 Bell System announcement set as supplemental equipment.
RDM	42204	463-340-110	KS-19522		Connects a customer-provided recorder/announcement machine to an exchange line for 2-way transmission (KS-19522 recorder coupler).
RDM	42204	463-340-111	KS-19522		Protective Connecting Arrangement RDM using a KS-16765 Bell System announcement set as supplemental equipment.
RDMZR	42209	463-340-101	KS-20721	SD-69903-01	Connects a customer-provided recorder/announcement set to an exchange line for 2-way transmission (KS-20721 station coupler).
RDY	42209	463-340-101	KS-20721		Same as RDM but with voice control disconnect and automatic receive volume limiting.
RTT	42203	463-340-120	KS-19645	SD-99414-01	Generates a 440-Hz tone in both directions on a line under control of a customer-provided call duration timer.
STC	42208	463-340-103	KS-20721	SD-69903-01	Provides for the connection of a customer-provided telephone sets to a central office exchange line or PBX station line.
STP	42212	463-341-101	120A/B	SD-69646-01	Provides for the connection of customer-provided multiline key telephone system to CO or PBX lines on a 2-wire basis.

TABLE A (Cont)

USOC	PUB NUMBER	SECTION NUMBER	INTERCONNECTING DEVICE	SCHEMATIC DRAWING	DESCRIPTION
STS	42210	463-340-102	KS-20721	SD-69903-01	Automatically connects customer-provided equipment (typically alarm systems) using tone supervision to a central office exchange line or PBX station line (KS-20721 station coupler).
SUT	42705	463-331-106	KS-21565	SD-1E296-01	Provides access to the TOUCH-TONE dial circuit of a Bell System PBX SWBD for a customer-provided multifrequency (MF) tone address dialer.
SU3	42201	463-340-100	KS-20445	SD-69600-01	Tone signaling unit for use with Protective Connecting Arrangements CAU and SU6 to permit the operation of the alarm device to be tested or verified from a remote location.
SU4	42201	463-340-100	KS-20445		CAU plus SU3 to provide alarm coupler with remote testing feature for customer-provided alarm systems.
SU6	42201	463-340-100	KS-20445		Same as CAU but with modification to provide 2-way transmission to permit detection of dial tone or proper signal from remote point.
SU6AQ	42210	463-340-102	KS-20721	SD-69903-01	Automatically connects customer-provided equipment (typically alarm systems) to a central office exchange line or PBX station line (KS-20721 station coupler).
SU7QW	42202	463-340-104	KS-20721	SD-69903-02	Permits use of customer-provided dial pulse dialers that do not require a transmission path (KS-20721 station coupler).
TAS	42404	463-350-110	J53053J	SD-1E257-01	Provides an interface between a central office secretarial line and a one-way incoming line circuit associated with the CPE.

TABLE A (Cont)

USOC	PUB NUMBER	SECTION NUMBER	INTERCONNECTING DEVICE	SCHEMATIC DRAWING	DESCRIPTION
TSPXY TSPZ1	42704	463-382-105	J53053L	SD-1E295-01	Provides an interface between a PBX central office trunk and the CPE on one-way ground start outgoing trunks.
VCP	42607	463-300-109	KS-20944 Protector	—	Provides protection for customer-provided dc power supply.
—	—	463-300-112	75A	SD-1E246-01	Provides automatic level control to associated voice type IUs used for data.
—	—	463-361-100	119A	SD-1G286-01	Provides 2-wire connection between customer-provided equipment and Bell System metallic voice grade private line.
—	—	463-300-101	—	—	Provides information on 604A-type panel.
—	—	463-300-102	—	—	Provides information on 604B, 604C panel, and 21A apparatus unit.
—	—	463-300-103	—	—	Provides information on 606A panel.
—	—	463-300-104	—	—	Provides information on 615A panel.