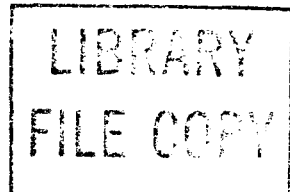


## CODED CONNECTORS—960 THROUGH 990

### DESCRIPTION



#### 1. GENERAL

1.01 This section lists and illustrates coded connectors within the part or type number range of 960 through 990, used for the maintenance and operation of equipment in central offices.

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

#### 2. DESCRIPTION OF CONNECTORS

2.01 **960A and B:** The 960A and B connectors (Fig. 1) consist of a molded block of insulating material containing 30 spring terminals equipped with twin contacts. The mounting holes are offset with respect to the center of the card slot to allow interchangeability of mounting with the 935A connector. The 960A and B connectors are used on the A6 channel bank.

(a) **960A:** The 960A connector has the wiring end of its terminals arranged for mechanically wrapped connections.

(b) **960B:** The 960B connector is provided with terminals arranged for solder connection to a 0.062 inch thick printed wiring backplane or flexible tape. The terminals will accept two wraps of No. 24 or 26 American Wire Gauge (AWG) wire.

2.02 **961A, B, and C:** The 961A, B, and C connectors (Fig. 2) consist of a 10-contact vertical plug-on unit with dual cable entrances and four indexing pits. Each connector has a ganging groove and a finger pull ring.

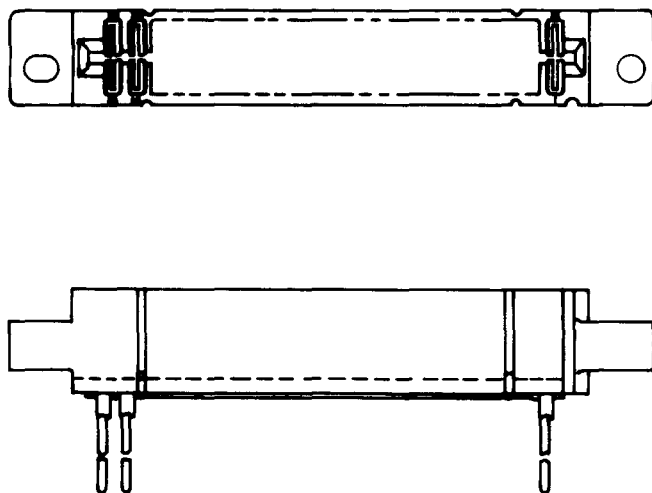


Fig. 1—960A or B Connector

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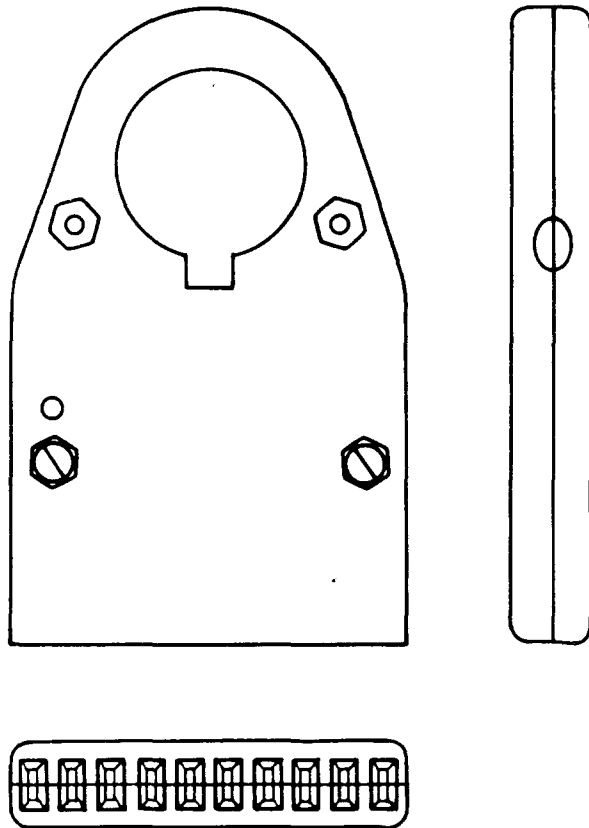


Fig. 2—961A, B, or C Connector

(a) **961A:** The 961A connector is made for connection to the 66-type connecting blocks with 0.200 inch spacing between contacts. The connector is used on the 142A test set.

(b) **961B:** The 961B connector has 0.250 inch spacing between the contacts and is used on the 142A test set.

(c) **961C:** The 961C connector will fit any connecting block using quick connect terminals with 0.200 inch spacing. The connector is used on the 66M1 test connector.

**2.03 963-Type:** The 963-type connectors consist of a molded block of insulating material and contacts which mate with 0.025 by 0.025 inch pins. The 963-type connectors mount on printed wiring boards except the 963E and 963F connectors. For more information, see Table A.

TABLE A

CODE NO.	FIG. NO.	FEATURES
963C-100	3	100 contacts in all cavities.
963C-100-0	3	Zero contacts.
963C-100-84	3	84 contacts—Two outside rows of cavities at each end of the insulator contain no contacts.
963C-100-92	3	92 contacts — One outside row of cavities at each end of the insulator contains no contacts.
963C-208-100	4	Only cavities 000—024, 100—124, 200—224, and 300—324, equipped with contacts (A and M only).
963C-208-184	4	Cavities 000, 024, 032, 056, 100, 124, 132, 156, 200, 224, 232, 256, 300, 324, 332 and 356 are not equipped with contacts (A and M only).
963C-208-200	4	Cavities 025, 026, 027, 029, 030, 031, 125, 126, 130, and 131 are cored for keying plugs (A and M only).
963C2-210-100	4	Only cavities 000-224, 100-124, 200-224, and 300-324 are be equipped with contacts.
963C2-210-184	4	Cavities 000, 024, 032, 056, 100, 124, 132, 156, 200, 224, 232, 256, 300, 324, 332 and 356 are not equipped with contacts.
963C2-210-200	4	Cavities 025, 026, 027, 029, 030, 031, 125, 126, 130, and 131 are cored for keying plugs — no mounting legs.
963E-2	5	Contains two electrically common contacts used to make contact between two adjacent pins on 0.125 centers.
963F-2	6	Contains two electrically common contacts used to make contact between two adjacent pins on 0.150 centers.
963G-50	7	Consists of 50 cavities and contains 50 contacts.
963G-82	7	Consists of 82 cavities and contains 82 contacts.
963G-82-50	7	Consists of 82 cavities and contains 50 contacts. Vacant cavities are equally divided at each end of the insulator.
963G-104-100	7	Consists of 104 cavities and 100 contacts. Cavities 025, 026, 027, 029, 030, 031, 125, 126, 130, and 131 are cored for keying plugs.
963G-114	7	Consists of 114 cavities and 114 contacts.
963G-114-50	7	Consists of 114 caviities and contains 50 contacts. Vacant cavities are equally divided at each end of the insulator.
963G-114-82	7	Consists of 114 cavities and contains 82 contacts. Vacant cavities are equally divided at each end of the insulator.
963G-114-100	7	Consists of 114 cavities and contains 100 contacts.
963K1-32	8	Contains 32 contacts. Designed to mate with a 0.025 inch square pin.
963L-316-300	9	Contains 300 contacts. Cavities 025, 026, 031, 125, 126, 130 and 131 are cored for keying plugs.
963M-161-150	10	Consists of 100 contacts. Cavities 125, 126, 127, 129, 130, 131, 225, 226, 230, and 231 will be cored for keying plugs.

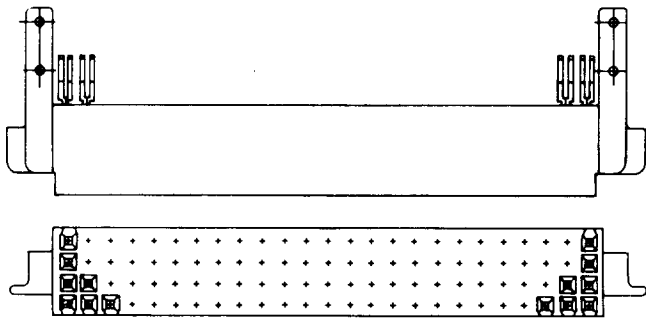


Fig. 3—963C-100, -100-0, -100-84, or -100-92 Connector

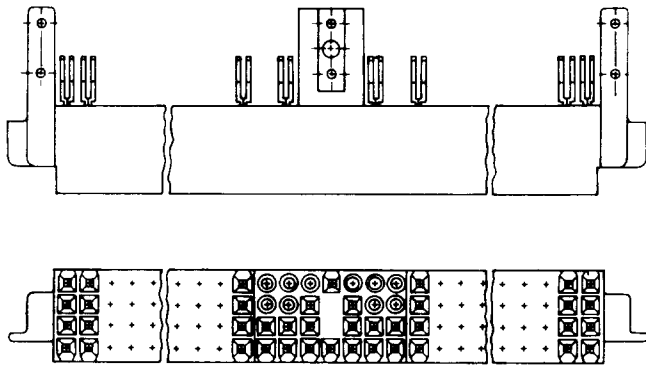


Fig. 4—963C-208-100, -208-184, -208-200, 963C2-210-100, -210-184, or -210-200 Connector

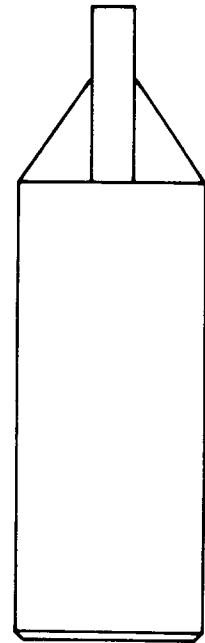
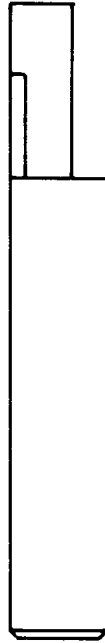


Fig. 5—963E-2 Connector

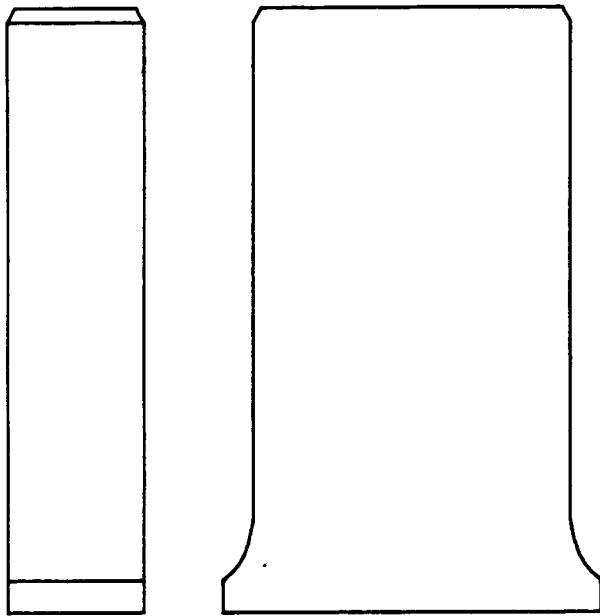


Fig. 6—963F-2 Connector

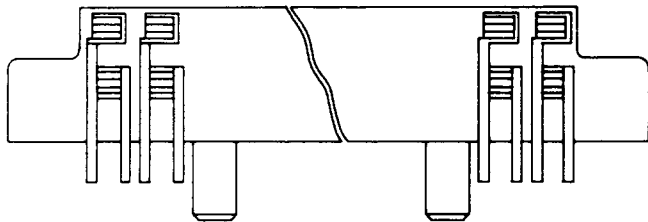


Fig. 7—963G-50, -82, -82-50, -104-100, -114, -114-50, -114-82, or -114-100 Connector

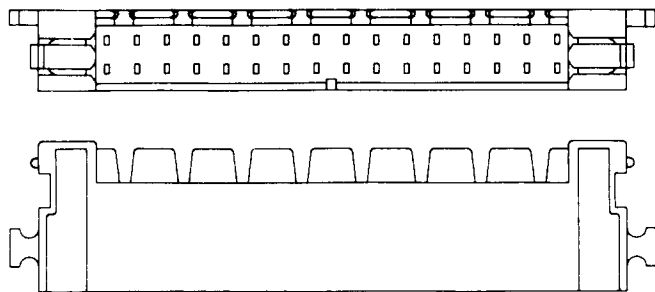


Fig. 8—963K1-32 Connector

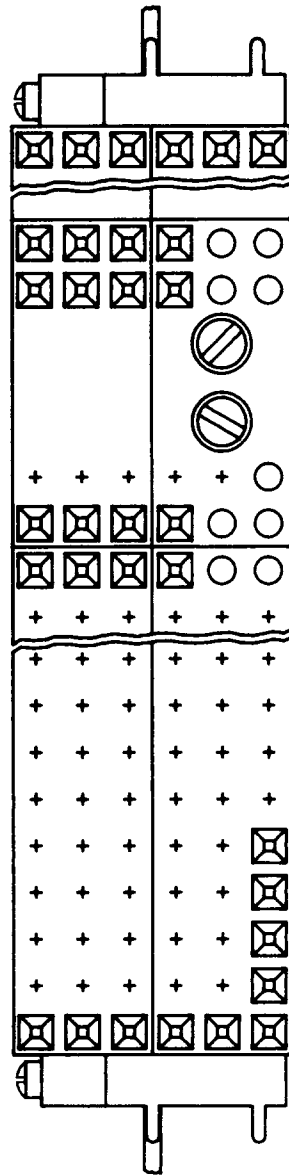


Fig. 9—963L-316-300 Connector

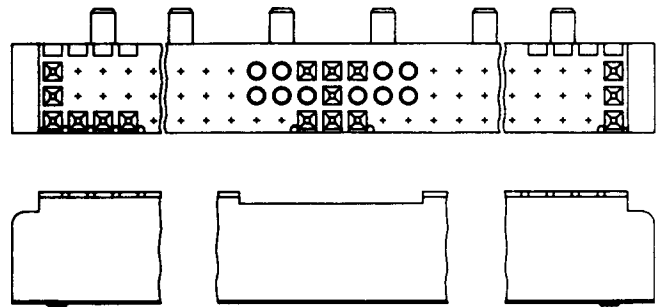


Fig. 10—963M-161-150 Connector

**2.04 969A and B:** The 969A and B edgeboard connectors are equipped with a phenolic block having contacts with terminals arranged for two mechanically wrapped connections. The contacts are opened when a 480A or 480B plug, resembling the plug end of a printed wiring board, is fully inserted.

(a) **969A:** The 969A connector is equipped with six pairs of normally closed contacts. The connector is used on the D4 channel bank.

(b) **969B:** The 969B connector (Fig. 11) is equipped with five pairs of normally closed contacts and one pair of normally open contacts. The connector is used in the channel bank of the SLC-\*96 Subscriber Loop Carrier System.

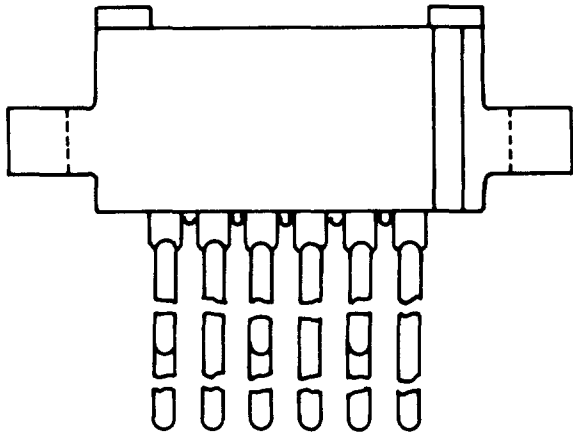
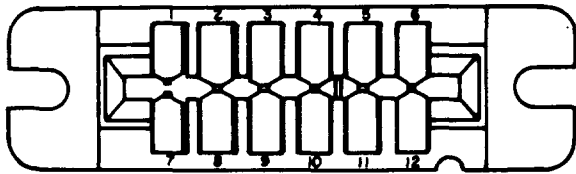


Fig. 11—969B Connector

**2.05 970A:** The 970A connector (Fig. 12) consists of two 946C connectors mounted on a common bracket above each other. The connector is designed to mate with the 971A connector and is used on the No. 4 Electronic Switching System (ESS).

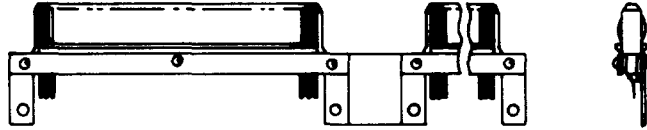


Fig. 12—970A Connector

**2.06 971A:** The 971A connector (Fig. 13) consists of two 947C connectors mounted to a common bracket. The connectors contain 164 terminals and are designed to mate with the 970A connector. The connector is used on the No. 4 ESS.

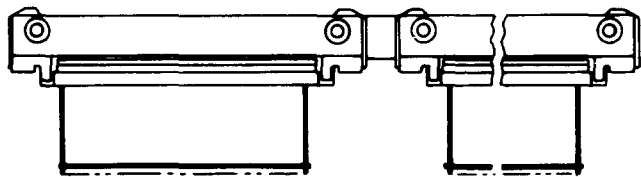


Fig. 13—971A Connector

\* Trademark

**2.07 973A, B, C, D1, D2, D3, E1, E2, and E3:**

The 973-type connectors consist of a molded block of insulating material containing spring assemblies that are equipped with bifurcated metal contacts. The terminals of the contact spring assemblies are suitable for solderless wrapped connections.

(a) **973A:** The 973A connector is equipped with 40 contact spring assemblies in 2 rows of 20 each. The connector is used on the COM KEY® 2152 Key Telephone System. The dimensions of the connector are approximately 3.68 inches long by 0.74 inch wide by 1.16 inches high. The terminals extend 0.67 inch beyond the 1.16 inches dimension.

(b) **973B:** The 973B connector is equipped with 20 spring assemblies. The contacts are in positions 21 through 40 on the left side of the printed wiring board slot. The connector is used on the COM KEY 2152 Key Telephone System.

(c) **973C:** The 973C connector is equipped with 20 contact spring assemblies located in positions 1 through 20 on the right side of the printed wiring board.

(d) **973D1:** The 973D1 connector is equipped with 40 contact spring assemblies in 2 rows of 20 each. The terminals of the contact spring assemblies are pin-type and suitable for soldering to a 0.062 inch thick rigid backplane. The dimensions of the connector are approximately 3.68 inches long by 0.74 inch wide by 0.91 inch high. The terminals extend 0.14 inch beyond the 0.91 inch dimension. This connector is used on the No. 1A Key Telephone System.

(e) **973D2:** The 973D2 connector is equipped with 20 contact spring assemblies located in positions 21 through 40.

(f) **973D3:** The 973D3 connector is equipped with 20 contact spring assemblies located in positions 1 through 20.

(g) **973E1:** The 973E1 connector is equipped with 40 contact spring assemblies in 2 rows of 20 each. The overall dimensions are approximately 3.68 inches long by 0.74 inch wide by 0.91 inch high. The terminals extend 0.58 inch beyond the 0.91 inch dimensions and are suitable for wire-wrapping to a 0.062 inch thick rigid backplane. This connector is used on the No. 1A2 Key Telephone System.

(h) **973E2:** The 973E2 connector is equipped with 20 contact spring assemblies located in positions 21 through 40.

(i) **973E3:** The 973E3 connector is equipped with 20 contact spring assemblies located in positions 1 through 20.

**2.08 975A and B:** The 975A and B connectors consist of a plug equipped with a 2-piece solderless wrap adapter. The adapter is capable of accepting two 22, 24, or 26 AWG wires. The connectors are made for general use.

(a) **975A:** The 975A connector consists of a KS-16671, L1, multicontact miniature ribbon plug.

(b) **975B:** The 975B connector consists of a KS-16671, L8, plug.

**2.09 976A through M:** The 976-type connectors consist of a receptacle equipped with a 2-piece solderless wrap adapter. The adapter is capable of accepting two 22, 24, or 26 AWG wire. These connectors are for general use. For more information, see Table B.

TABLE B

CODE NO.	RECEPTACLE USED
976A	KS-16692, L29
976B	KS-16672, L14
976C	KS-16672, L10
976D	KS-16672, L16
976E	KS-16786, L4
976F	KS-16786, L11
976G	KS-16786, L21
976H	KS-16786, L52
976J	KS-16786, L57
976K	KS-20765, L1
976L	KS-20765, L3
976M	KS-21133, L1

**2.10 977A, B, C, and D:** The 977-type connectors (Fig. 14) consist of a printed wiring board with one end having printed wiring terminals which serve as a connector. The connectors are provided with a faceplate, handle, and a backplate, all of which are enclosed in a metal can. The dimensions for the 977A and B connectors are: A = 5.90 inches and B = 6.60 inches. The dimensions for the 977C and D connectors are: A = 7.40 inches and B = 7.95 inches. The connectors are used on the tantalum integrated circuit (TIC) 479-type apparatus cases.

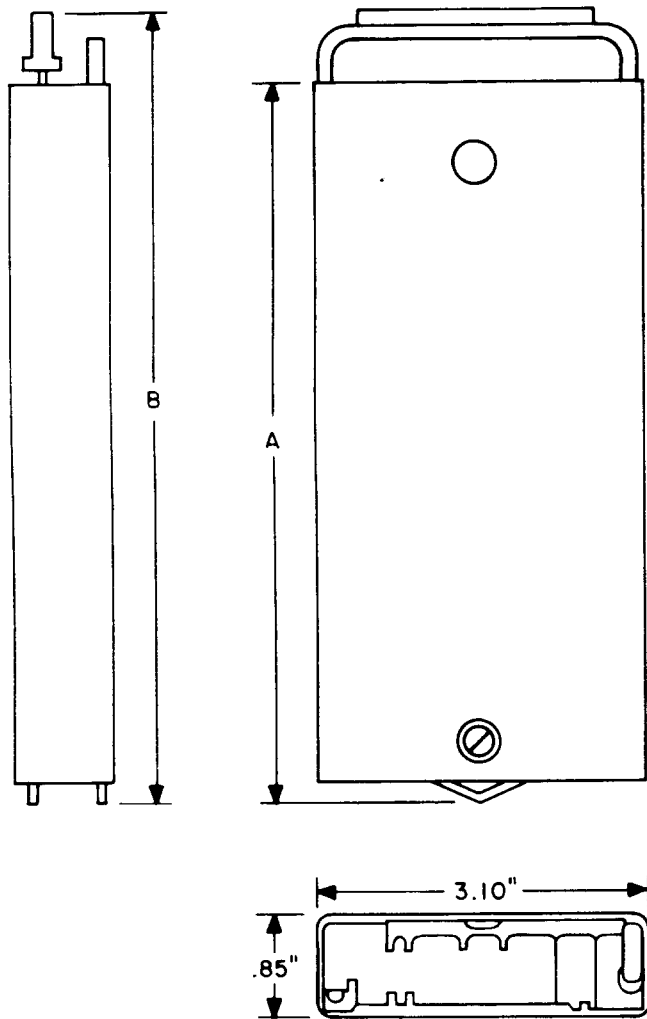


Fig. 14—977-Type Connectors

**2.11 979A, B, C, D, E, and F:** The 979-type connectors (Fig. 15) consist of two 963J-10 connectors which are ultrasonically welded to a printed wiring board. The connectors mate with 0.025 inch square terminals on 0.125 inch centers.

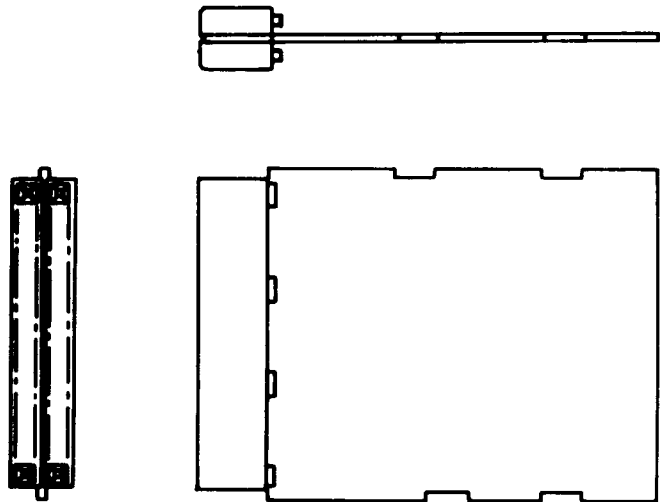


Fig. 15—979-Type Connector

**2.12 982-Type:** The 982-type connectors (Fig. 16) consist of two 963J-type connectors (except 963J-10 and 963J-10-8) bonded to and terminated on a paddleboard. The paddleboards are designed to terminate discrete wires, flat cable, and components, or provide for specific interconnections. For more information, see Table C.

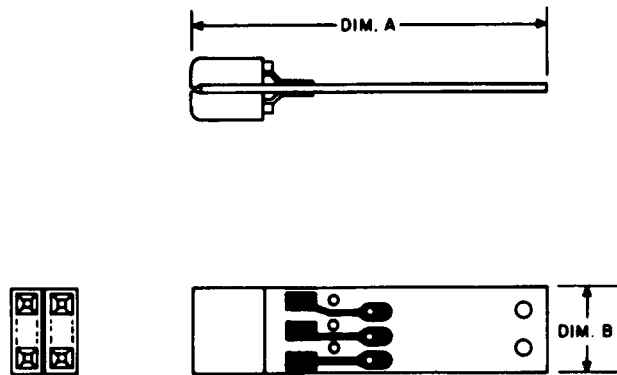


Fig. 16—982-Type Connector



TABLE C

982 CODE NO.	DIMENSION A	(INCHES) B	CONTACT ARRANGEMENT	DESIGNED TERMINATION
AA	1.482	0.350	2×3	Six discrete wires
AB	1.482	0.475	2×4	Eight discrete wires
AC	1.482	0.725	2×6	Twelve discrete wires
AD	1.482	0.975	2×8	Sixteen discrete wires
AE	1.482	1.475	2×12	Twenty-four discrete wires
AF	1.482	0.725	2×6	One 18-conductor flat cable
AG	1.482	0.725	2×6	One 18-conductor flat cable
AH	1.790	1.475	2×12	Components
AJ	1.790	1.475	2×12	Components
AK	1.482	1.475	2×12	One 36-conductor flat cable
AL	1.482	1.475	2×12	One 36-conductor flat cable
AM	1.482	1.475	2×12	Two 24-conductor flat cables
AN	1.482	1.475	2×12	Two 31-conductor flat cables
AP	1.482	1.475	2×12	Two 31-conductor flat cables
AR	2.045	1.475	2×12	Two 36-conductor daisy chain flat cables
AS	3.340	1.475	2×12	Two 36-conductor daisy chain flat cables
AT	2.045	1.475	2×12	Two 36-conductor daisy chain flat cables
AU	3.340	1.475	2×12	Two 36-conductor daisy chain flat cables
AW	2.045	1.475	2×12	Two 31-conductor daisy chain flat cables
AY	3.340	1.475	2×12	Two 31-conductor daisy chain flat cables
BA	2.045	1.475	2×12	Two 31-conductor daisy chain flat cables
BB	3.340	1.475	2×12	Two 31-conductor daisy chain flat cables
BC	1.482	1.475	2×12	Two 24-conductor flat cables
BD	1.790	1.475	2×12	Components
BF	1.482	1.475	2×12	Components
BG	2.540	1.475	2×12	Two 24-conductor cables
BJ	1.482	1.475	2×12	Components
BK	1.790	1.475	2×12	Components
BL	1.340	1.475	2×12	Components (equipped with twelve 110-ohm resistor)
BM	2.045	1.475	2×12	Components (equipped with twenty-three 2210-ohm resistor)
BN	1.482	1.475	2×12	Two 31-conductor cables
CA	1.340	1.475	2×12	Components (equipped with four 1300-ohm resistors)
CB	1.340	1.475	2×12	Components (equipped with five 4700-ohm resistors)
CC	1.482	1.475	2×12	One 14-gauge wire

TABLE C (Contd)

982 CODE NO.	DIMENSION A	(INCHES) B	CONTACT ARRANGEMENT	DESIGNED TERMINATION
CD	1.482	1.475	2×12	Eight sheathed twisted pair wires
CE	2.540	1.475	2×12	Sixteen discrete wires and sixteen components [equipped with sixteen (1/2 watt) 100-ohm resistors]
CF	1.790	1.475	2×12	Mounts optical transmitter
CG	1.790	1.475	2×12	Mounts optical receiver
CH	1.482	1.475	2×12	Two 36-conductor cables
CJ	1.482	1.475	2×12	Two 36-conductor cables
CL	1.482	1.475	2×4	Components
CS	1.482	1.475	2×12	Components
CU	1.482	1.475	2×12	Discrete wires
DA	1.482	3.100	2×24	Discrete wires
DC	1.340	3.100	2×24	Special purpose mounting
EB	3.340	1.475	2×12	Component
EC	3.340	1.475	2×12	NULL Interrupt
ED	3.440	1.475	2×12	Component/Conductor Cable
EF	1.482	0.475	2×4	Components
EH	2.540	1.475	2×12	Components
EJ	2.540	1.475	2×12	Twisted pair cable
EK	2.540	1.475	2×12	Twisted pair cable
EP	2.045	1.475	2×12	Conductor cable/RS 232C interface
ER	3.340	1.475	2×12	Conductor cable/RS-232C interface
ES	1.482	1.475	2×12	Specific interconnection
FA	1.482	1.475	2×12	Interrupt level 1
FB	1.482	1.475	2×12	Interrupt level 2
FC	1.482	1.475	2×12	Interrupt level 3
FD	1.482	1.475	2×12	Interrupt level 4
FE	1.482	1.475	2×12	Interrupt level 5
FF	1.482	1.475	2×12	Interrupt level 6
FG	1.482	1.475	2×12	Interrupt level 7

**2.13 984A:** The 984A connector (Fig. 17) consists of 92 contact springs symmetrically sandwiched between a tongue and two molded insulators riveted together between two stainless steel brackets. The connector is used with the 985A and 987A connectors. The connector is used on the Remote Switching System (RSS).

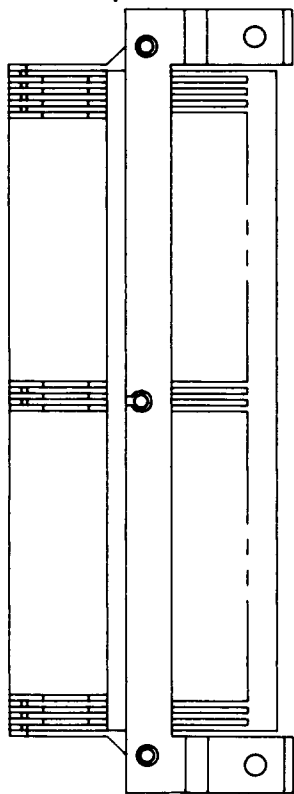
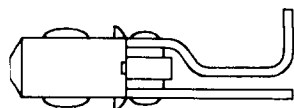


Fig. 17—984A Connector



**2.14 985A:** The 985A connector (Fig. 18) consists of 2 molded insulating parts, 2 metal covers riveted to 1 of the molded parts, and 82 terminals. The terminals are 0.025 inch square positioned on 0.125 inch centers on a backplane grid, designed to accommodate a multilayer printed wiring board and up to 3 levels of 28 or 30 AWG solderless wrapped connections. The connector is designed for use with the 984A connector in RSS.

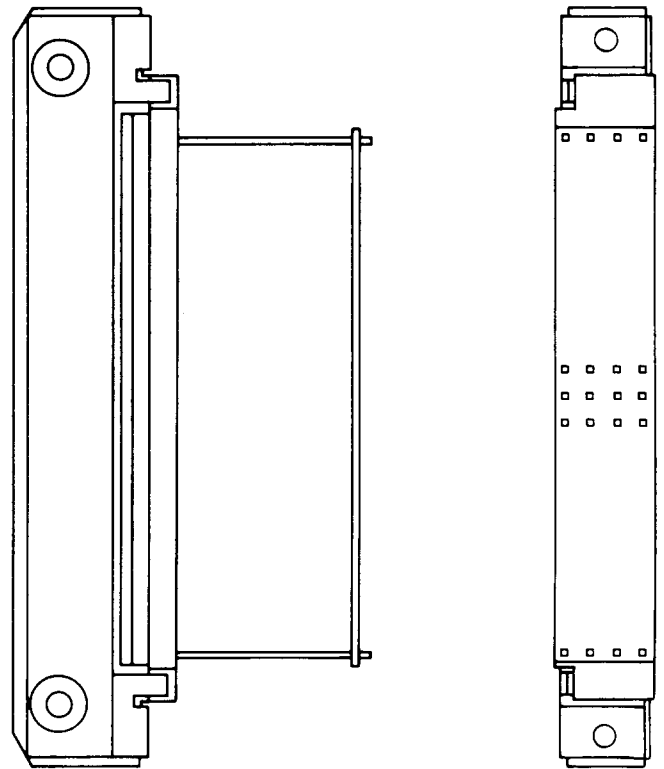


Fig. 18—985A Connector

**2.15 986A:** The 986A connector (Fig. 19) consists of two 946C connectors and two molded insulators mounted to a common bracket. The terminal leads are soldered to both sides of the printed wiring board and 164 terminals are provided. The connector is restricted for use in RSS applications and is intended for use only with the 987A connector.

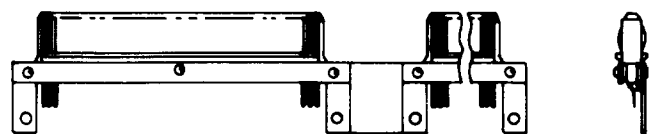


Fig. 19—986A Connector

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2.16 **987A:** The 987A connector (Fig. 20) consists of two 985C connectors mounted to a common bracket. The 987A connector contains 164 terminals. The connector is designed with the power and ground terminals lengthened to "make" before all other terminals, and restricted for use only with the 984A and 986A connectors.

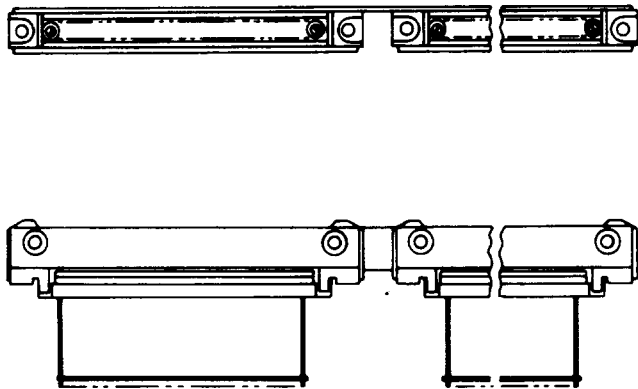


Fig. 20—987A Connector

2.17 **988A:** The 988A connector (Fig. 21) is designed to be used on the 93-type connecting block to shorten the volt-ampere (VA) lead to the -48 volt lead for Switching Maintenance Access System applications.

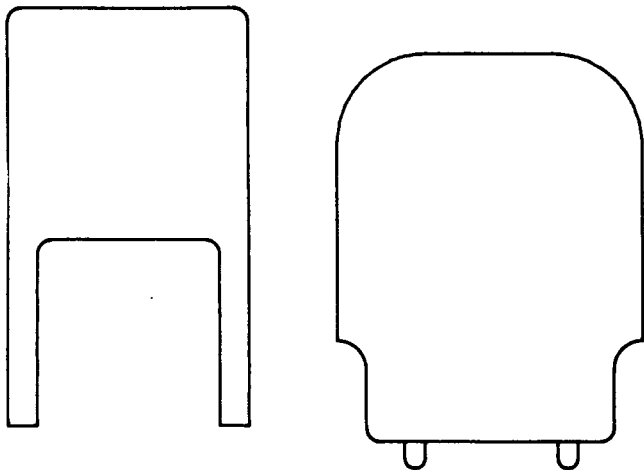


Fig. 21—988A Connector

2.18 **990A:** The 990A connector (Fig. 22) is used on customer convenience hardware.

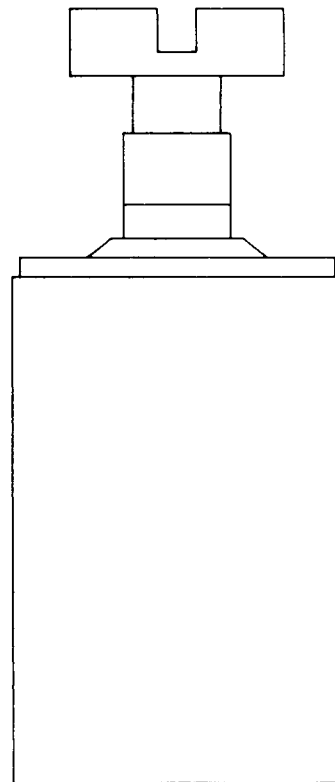
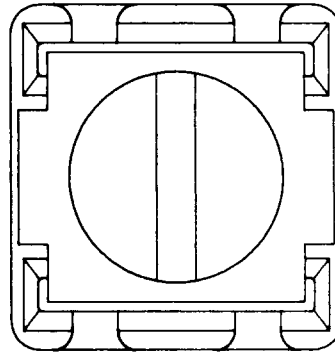


Fig. 22—990A Connector