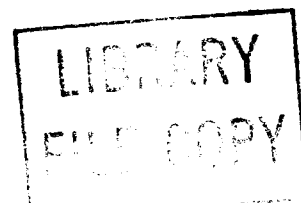


## CODED PLUGS—450 THROUGH 474

### DESCRIPTION



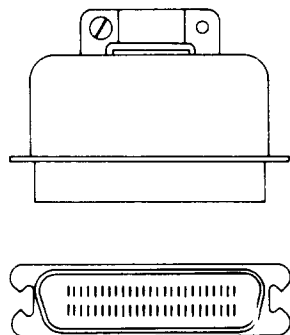
#### 1. GENERAL

**1.01** This section lists and illustrates coded plugs within the part or type number range of 450 through 474, used for maintenance and operation of equipment in central offices.

**1.02** The information provided in this section was previously shown in 032-510-101, Issue 11. In addition, the 464B-type, 464C-type, and 473A plugs are being added. The Equipment Test List is not affected.

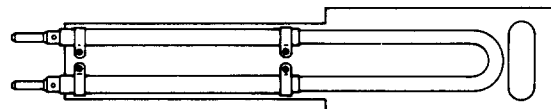
#### 2. DESCRIPTION OF PLUGS

**2.01 450A:** The 450A plug (Fig. 1) consists of a rectangular block of insulating material, equipped with 50 gold-plated contacts assembled in the front and back of a metal shell. The shell is equipped with a cable clamp located on the rear of the shell. The plug is polarized to insure proper mating with locking connectors. The 450A plug is used in the 6A1 Data Mounting.



**Fig. 1—450A Plug**

**2.02 451A:** The 451A (Fig. 2) is a twin, through-plug consisting of two 436A plugs, connected by a 728A cable, mounted on a red nylon plate. The 451A plug is used in the L4 Coaxial System.



**Fig. 2—451A Plug**

**2.03 452A:** The 452A (Fig. 3) is a twin, through-plug consisting of two 436A plugs, connected by a 728A cable, mounted on a red nylon plate. The 452A plug is used in the L4 Coaxial System.

#### NOTICE

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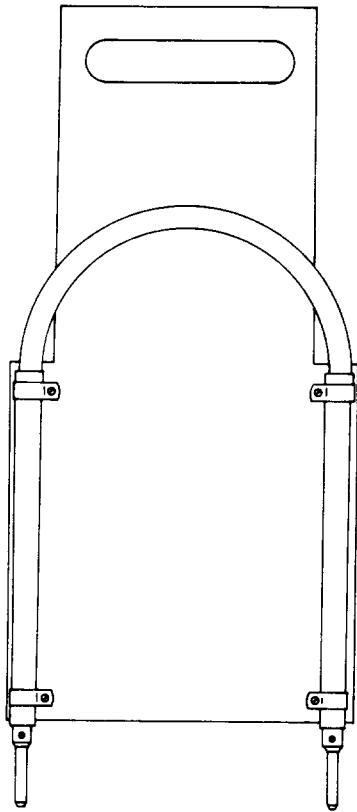


Fig. 3—452A Plug

**2.04 453A:** The 453A (Fig. 4) is a single-pair test plug which mates with the 302-type connectors. The 453A plug is used on the Main Distribution Frame (MDF) in central offices.

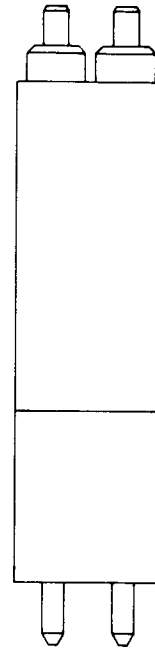


Fig. 4—453A Plug

**2.05 454A:** The 454A (Fig. 5) is a coaxial type plug arranged for solderless shield connection to a cable by means of a sleeve. The 454A plug is used with the 730A cable and is used in the 3A Wire Line Entrance Link.

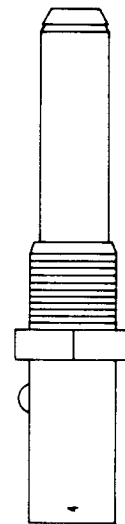


Fig. 5—454A Plug

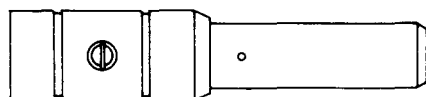
**2.06 455A:** The 455A plug (Fig. 6) consists of a modified 337C plug and a modified 211A terminal, which is soldered together by a 2297-ohm (221A) resistor, connected to the center terminals.



**Fig. 6—455A Plug**

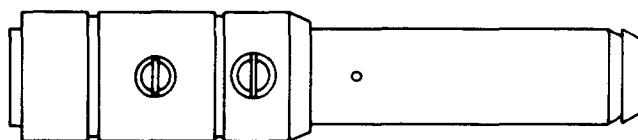
**2.07 456A and B:** The 456A and B are coaxial type plugs arranged for solderless shield connection by means of a sleeve. The 456A and B plugs mate with the 560A and similar-type jacks.

(a) **456A:** The 456A plug (Fig. 7) is used on the TD/TH IF Level Improvement Amplifier.



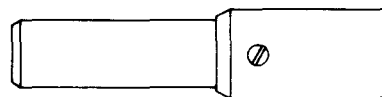
**Fig. 7—456A Plug**

(b) **456B:** The 456B plug (Fig. 8) is equipped for termination of a KS-19224, L2 cable and is used with the T4M Digital Coax.



**Fig. 8—456B Plug**

**2.08 457A:** The 457A plug (Fig. 9) consists of a coaxial type plug, with an inner contact held concentrically by means of an insulator in a tubular body which is the outer contact. The 457A plug is equipped with a metal washer which shorts the inner and outer contacts. This plug is used in testing "shorting down" lines in the L4 Coaxial System.



**Fig. 9—457A Plug**

**2.09 458A:** The 458A (Fig. 10) consists of twin plug fingers electrically connected to a terminal and enclosed in a metal shell. The 458A plug is designed to connect to 760A twin-conductor cable and mates with 560A- and similar-type jacks. This plug is used in the TD-3 radio and 4A FM terminal receiver.

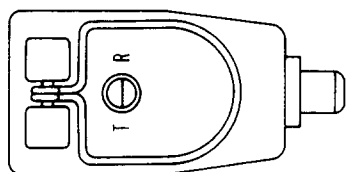
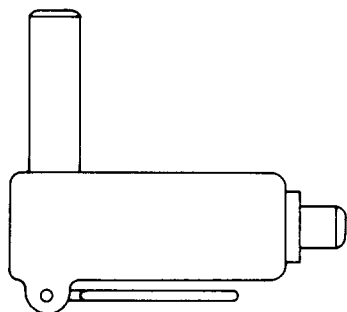
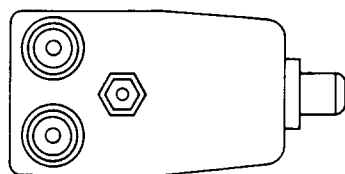
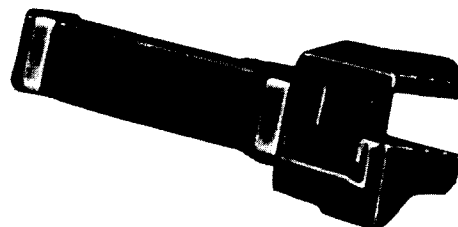
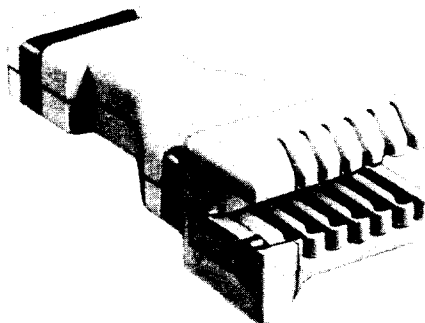


Fig. 10—458A Plug

2.10 **459-Type:** The 459-type plugs (Fig. 11) are arranged to accommodate either 3- or 6-wire switches.



FOR 3-WIRE SWITCHES



FOR 6-WIRE SWITCHES

Fig. 11—459-Type Plug

(a) **459A:** The 459A plug consists of a black molded cover and base, equipped with three spring contacts that are arranged to accommodate 3-wire type switches. The 459A plug is a miniature service observing plug available only on P3BE cord and designed for use with CA through CF series of small crossbar switches.

(b) **459B:** The 459B plug consists of a black molded cover and base, equipped with six spring contacts, to accommodate 6-wire type switches. The 459B plug is available only on the P6R and P4BR cords. This plug is not equipped with a ground spring and is used with the CA and CF series of small crossbar switches.

(c) **459C:** The 459C plug consists of a red cover and base, equipped with six spring contacts to accommodate 6-wire type switches. The 459C plug is used as a make busy plug and is not arranged for cord connections. The No. 0 contact is the ground connection.

(d) **459D:** The 459D plug consists of a yellow cover and base, equipped with 6-spring contacts to accommodate 6-wire type switches. The No. 3 contact is the ground connection. The 459D

plug is used as a make busy plug and is not arranged for cord connections.

(e) **459E:** The 459E plug consists of a red cover and base, equipped with 3-spring contacts to accommodate 3-wire type switches. The No. 0 contact is the ground connection. The 459E plug is used as a make busy plug and is not arranged for cord connections.

(f) **459F:** The 459F plug consists of a white molded cover and base, equipped with 3-spring contacts to accommodate 3-wire switches. The 459F plug has the first contact clipped off. This plug is only available on the W3BK cord and is used for line test.

(g) **459G:** The 459G plug consists of a green cover and base equipped with 3-spring contacts to accommodate 3-wire type switches. The No. 2 contact is the ground connection. The 459G plug is used as a make busy plug and is not arranged for cord connections.

**2.11 462A:** The 462A plug (Fig. 12) consists of a pair of coaxial plug fingers mounted in a metal shell. The inner contacts of the coaxial fingers are interconnected by two 61.9 ohm resistors (238A) in series. The outer contacts are strapped together and to the midpoint between the two resistors. The outer contacts of the fingers are not insulated from the metal shell. The 462A plug is used in the TH-3 Medium Haul System.

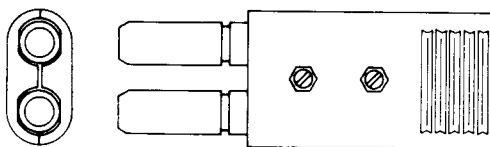


Fig. 12—462A Plug

**2.12 463A:** The 463A (Fig. 13) is a 4-conductor plug consisting of a pin and a cap assembly enclosed in two plastic shell halves. The 463A plug is arranged for use on one end of the W2GC, W2GD, W2GL, W2GM, W4BR, W4BS (Mfr Disc.), W4CJ, W4CK (Mfr Disc.), W4CL, and W4CM cords. The 463A plug replaces the 431A plug and is used on test cords for the 302- and 303-type connectors.

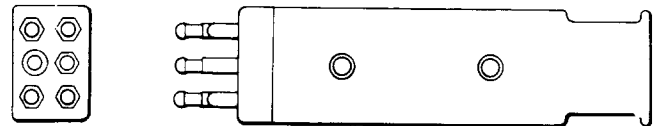


Fig. 13—463A Plug

**2.13 464A-Type:** The 464A-type (Fig. 14) are flexible, twin, double-conductor plugs. Each plug consists of a shell of insulating material. The 464A-type plugs are arranged so that the plug fingers may be turned 90 degrees in the shell to present a new surface for wear. The 464A-type plugs are used on operator headset cords.

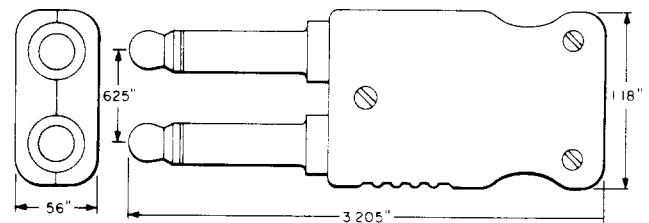
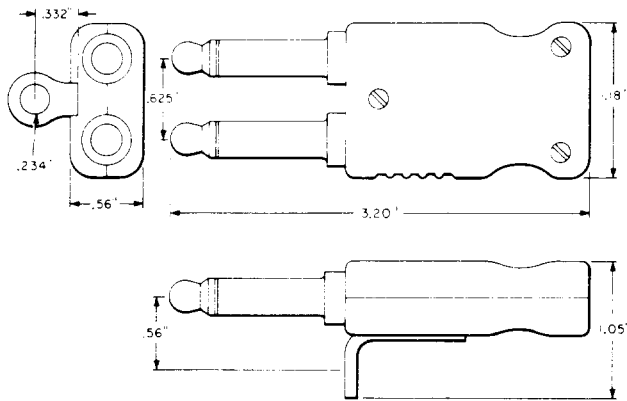


Fig. 14—464A- or C-Type Plug

- (a) **464A-3:** The 464A-3 plug is black in color and replaces the 289B and 396A-3 plugs.
- (b) **464A-50:** The 464A-50 plug is ivory in color and replaces the 396A-50 plug.
- (c) **464A-51:** The 464A-51 plug is green in color and replaces the 396A-51 plug.
- (d) **464A-52:** The 464A-52 plug is gray in color.
- (e) **464A-53:** The 464A-53 plug is red in color and replaces the 396A-53 plug.
- (f) **464A-56:** The 464A-56 plug is yellow in color and replaces the 396A-56 plug.
- (g) **464A-58:** The 464A-58 plug is white in color and replaces the 396A-58 plug.
- (h) **464A-59:** The 464A-59 plug is rose pink in color and replace the 396A-59 plug.

- (i) **464A-60:** The 464A-60 plug is light beige in color and replaces the 396A-60 plug.
- (j) **464A-61:** The 464A-61 plug is light gray in color and replaces the 396A-61 plug.
- (k) **464A-62:** The 464A-62 plug is aqua blue in color and replaces the 396A-62 plug.
- (l) **464A-64:** The 464A-64 plug is turquoise in color and replaces the 396A-64 plug.

**2.14 464B-Type:** The 464B-type plugs (Fig. 15) are flexible, twin, double-conductor plugs. Each plug consists of a shell of insulating material. The 464B-type plugs are arranged so that the plug finger may be turned 90 degrees in the shell to present a new surface for wear. The 464B-type plugs are used on the No. 1 Crossbar.



**Fig. 15—464B-Type Plug**

- (a) **464B-3:** The 464B-3 plug is black in color and replaces the 324B plug.
- (b) **464B-50:** The 464B-50 plug is ivory in color.
- (c) **464B-51:** The 464B-51 plug is green in color.
- (d) **464B-52:** The 464B-52 plug is gray in color.
- (e) **464B-53:** The 464B-53 plug is red in color.
- (f) **464B-56:** The 464B-56 plug is yellow in color.
- (g) **464B-58:** The 464B-58 plug is white in color.

- (h) **464B-59:** The 464B-59 plug is rose pink in color.
- (i) **464B-60:** The 464B-60 plug is light beige in color.
- (j) **464B-61:** The 464B-61 plug is light gray in color.
- (k) **464B-62:** The 464B-62 plug is aqua blue in color.
- (l) **464B-64:** The 464B-64 plug is turquoise in color.

**2.15 464C-Type:** The 464C-type (Fig. 14) are flexible, twin, double-conductor plugs. Each plug consists of a shell of insulating material. The 464C-type plugs are arranged so that the plug finger may be turned 90 degrees in the shell to present a new surface for wear. The 464C-type plugs are used with the P4L cords in common systems.

- (a) **464C-3:** The 464C-3 plug is black in color.
- (b) **464C-50:** The 464C-50 plug is ivory in color.
- (c) **464C-51:** The 464C-51 plug is green in color.
- (d) **464C-52:** The 464C-52 plug is gray in color.
- (e) **464C-53:** The 464C-53 plug is red in color.
- (f) **464C-56:** The 464C-56 plug is yellow in color.
- (g) **464C-58:** The 464C-58 plug is white in color.
- (h) **464C-59:** The 464C-59 plug is rose pink in color.
- (i) **464C-60:** The 464C-60 plug is light beige in color.
- (j) **464C-61:** The 464C-61 plug is light gray in color.
- (k) **464C-62:** The 464C-62 plug is aqua blue in color.
- (l) **464C-64:** The 464C-64 plug is turquoise in color.

**2.16 465A:** The 465A (Fig. 16) consists of a molded plastic plug having two terminals with

a 446F (Mfr Disc.) or 553F diode connected between the terminals. There is an arrow on the case to designate the polarity of the diode. The 465A plug is used in the J98622AA Maintenance Connector for No. 3 Switched Maintenance Access System (SMAS).

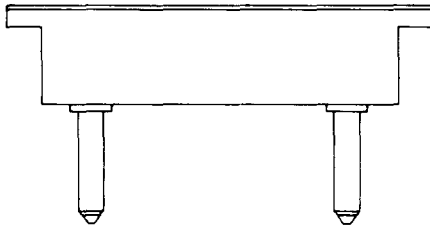


Fig. 16—465A Plug

**2.17 469A:** The 469A (Fig. 17) is a coaxial-type, right-angle, 75-ohm, terminating plug equipped with a KS-16312, L6D resistor. The 469A plug is arranged to mate with the 558A, 560A, 561A, and 562A jacks and is used in the 300A Protection Switching System.

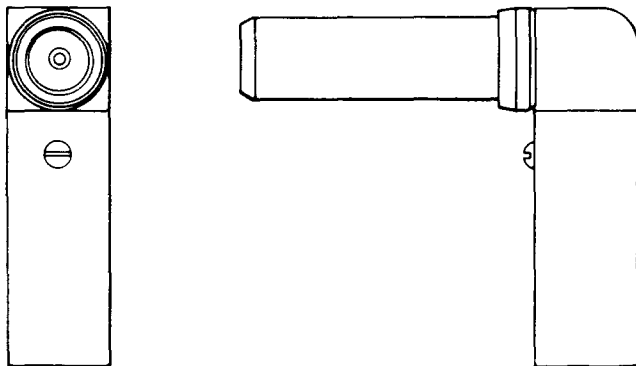


Fig. 17—469A Plug

**2.18 470B:** The 470B (Fig. 18) consists of a polarized male plug with five plastic fingers assembled in one end of a rectangular block of insulating material, equipped with a protective stainless steel shield. The other end of the block is arranged for cable engagement. Four of the fingers are arranged for solder connections on the wiring end. The 470B plug is used in D2 Channel Bank testing.

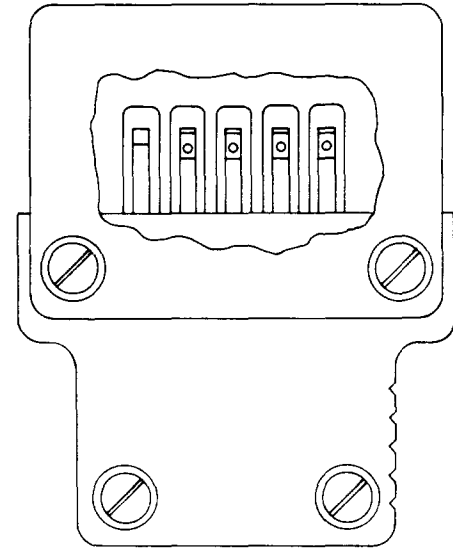


Fig. 18—470B Plug

**2.19 471A, B, and C:** The 471-type plugs are flexible, twin, coaxial type, having coaxially arranged inner and outer contacts. The 471-type plugs are equipped for solderless shield connections to either Alpha 1710 or Belden 8422 twin-conductor shield cable. The 471-type plugs mate with the 560A- or similar-type jacks.

(a) **471A:** The 471A plug (Fig. 19) is used on the T2 Fault Locating Test Set.

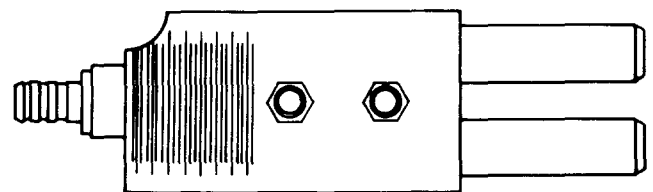


Fig. 19—471A or B Plug

(b) **471B:** The 471B plug (Fig. 19) terminal accepts a solderless-crimped connection to a 760A cable and is used in the 400A Protection Switching.

(c) **471C:** The 471C plug (Fig. 20) is equipped with a polarized alignment pin and is used

with the T2 Fault-Locating Test Set.

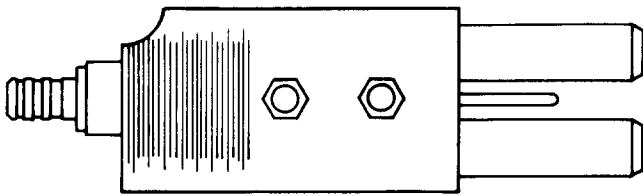


Fig. 20—471C Plug

**2.20 473A:** The 473A plug consists of a metal printed wiring board assembly, a spring-positioned polyester shield, enclosed in an aluminum outer housing, equipped with a rivet-attached cable clamp. The 473A plug mates with the 950A connector and is used on the J98622AN Maintenance Connecting Unit.

**2.21 473B:** The 473B plug (Fig. 21) inserts into a 950A connector to provide through circuits for connectors that were manufactured without providing such through circuits. The 473B plug is used in the J98622AN Maintenance Connecting Unit.

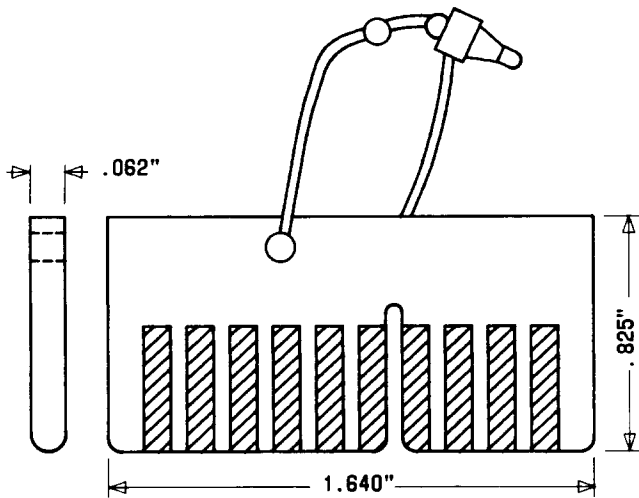


Fig. 21—473B Plug

**2.22 474A:** The 474A (Fig. 22) consists of a twin, 3-conductor plug and a shell of black insulating material. The 474A plug is generally connected to two, 3-conductor cords and is arranged to mate with the 238-, 239-, or similar-type jacks. The 474A plug is used on the D3 Channel Bank.

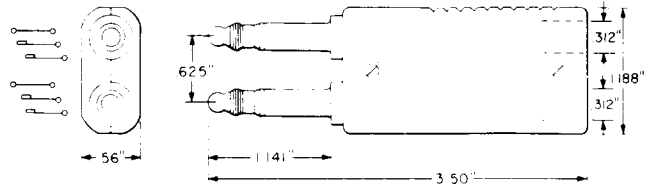


Fig. 22—474A Plug