
BIX*

In-Building Cross-Connect System Material Installation and Servicing (Wall-Mounted System)

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General

1. GENERAL

1.01 This section gives installation and servicing procedures for a wall-mounted BIX in-building cross-connect system.

1.02 *References.*

631-4511-100 BIX In-Building Cross-Connect System, Material Description

•631-4511-150 BIX In-Building Cross-Connect System, Planning and Applications.

Use of QTBI16A Connection Tool

- 2.01 The QTBI16A connection tool (Fig. 1) is used to terminate wires in the QCB1X-type connectors. Care should be taken at all times to avoid damage to the tool. The tool should be kept in the protective leather pouch when not in use. A damaged tool must be replaced.
- 2.02 The two-position select button in the handle of the tool selects either the CUT or NO-CUT position. In the CUT position the tool inserts the wire into the connector and cuts off the excess wire. In the NO-CUT position the tool inserts the wire into the connector only. The NO-CUT position is used when looping wire to another location.
- 2.03 The cutting side of the tool is identified by the black blade. In the CUT position, the tool is used with the black blade towards the wire-ends being cut-off.

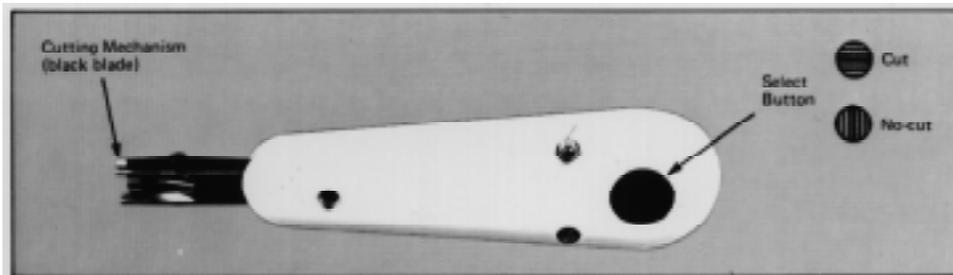


Fig 1 – QTBI16A Connection Tool

- 2.04 *Connection Tool in CUT Position (Fig. 2).*
 - (a) Set the select button to CUT.
 - (b) Hold the tool with the black blade towards the wires to be cut-off.

NOTE: In Fig. 2 the wires to be cut-off are shown pointing up.

- (c) Insert the tool into the connector. Hold the tool at right angles to, and level with, the connector.
- (d) Push the connection tool *fully* forward to seat the wire in the connector.

Caution: Wires will not be properly inserted in the connector unless the tool is pushed fully forward and bottomed. The click made by the tool does not necessarily indicate that the wire has been properly inserted.

- (e) Release forward pressure. Note that the cutting action takes place.

2.05 Connection Tool in the NO-CUT Position (Fig. 3).

- (a) Set the select button to NO-CUT.
- (b) Insert the tool in the connector. Hold the tool at right angles to, and level with, the connector
- (c) Push the connection tool fully forward to seat the wire in the connector.

Caution: Wires will not be properly inserted in the connector unless the tool is pushed fully forward and bottomed out. The tool does not click in the NO-CUT position.

- (d) Release forward pressure and remove the connection tool from the connector.

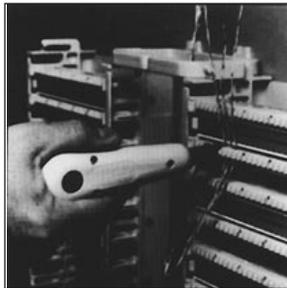


Fig. 2 – Using the Connection Tool in the CUT Position.



Fig. 3 – Using the Connection Tool in the NO-CUT Position

Installation of QMBIX10A Mounts

- 3.01 Refer to the engineering work plan, or to the completed : BIX System Space Planning and Material Guide Form, and determine:
- the configuration of the planned BIX installation
 - the total quantity of mounts, distribution rings and other hardware required.

CHART I
INITIAL MARKING OF WALL SPACE

TOOLS: Measuring tape, pencil.

MATERIALS: None.

REFERENCES: Engineering work plan, or • BIX System Space Planning and Material Guide Form.

STEP PROCEDURE

1. Mark the vertical and horizontal lines on the wall as specified in the work plan. If no work plan or wall measurements are specified, proceed to Step 2 and 3.
2. *Vertical Line.* Mark a vertical line approximately 200 mm (8 inches) from the left-hand side wall, or from other equipment (Fig. 4).

Note: 200 mm (8 inches) is approximately the width of a BIX mount.

3. *Horizontal Line.* Make a horizontal line on the wall 1100 mm (43 inches) from the floor level (Fig. 4).
-

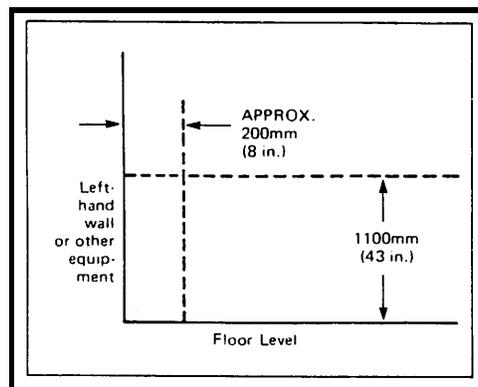


Fig 4. – Initial Marking of Wall Space

CHART 2
INSTALLATION OF QMBIX10A MOUNTS

TOOLS: Screwdriver

MATERIALS: QMBIX10A mounts.

HARDWARE:

- 3/4 inch (or 1/2 inch) #8 round-head wood screws (2 per mount) for plywood mounting.
- appropriate hardware (2 per mount) for other surfaces.

REFERENCES: Engineering work plan, or •BIX System Space Planning and Material Guide.

Note 1: Follow the detailed step-by-step procedure given in Fig. 5.

Note 2: BIX mounts need not be grounded.

STEP PROCEDURE

1. First Mount.

Caution: The correct alignment of the completed BIX installation depends on the accuracy of the vertical and horizontal placing of the first mount.

Align the top of the mount at the intersection of the vertical and horizontal wall markings. Secure the mount with two screws.

2. *Second Mount.* Attach two distribution rings on left side of second mount. Engage both rings in the first mount.
3. Check the horizontal alignment, and secure the mount with two screws.
4. Remove the upper distribution ring.
5. *Third Mount.* Attach distribution rings to the bottom of the third mount. Engage both rings in the first mount.
6. Check the vertical alignment, and secure the mount with two screws. Remove both distribution rings.
7. *Fourth Mount.* Attach two distribution rings on the left side, and one distribution ring at the lower right. Engage all rings in the previously installed mounts.
8. Check the horizontal and vertical alignment, and secure the mount with two screws.

Chart Continued

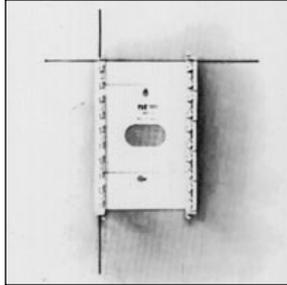
CHART 2 Continued
INSTALLATION OF QMBIX10A MOUNTS

STEP PROCEDURE

9. *Fifth Mount.* Butt the fifth mount directly against the second mount. Check the horizontal alignment, and secure the mount with two screws.
10. *Sixth Mount.* Butt the sixth mount directly against the fourth mount. Use a distribution ring to ensure correct vertical alignment. Secure the mount with two screws.
11. *Seventh Mount.* Butt the bottom of the mount against the top of the third mount. Check the vertical alignment, and secure with two screws.
12. *Subsequent Mounts:* Install the remaining mounts required for the initial installation in the manner previously described. Check that the distribution rings for the horizontal and vertical channel are installed as specified on the work plan.

Note 1: Where distribution rings are required for cable distribution, attach one end of the distribution ring to the mount and secure the ring to the wall with two screws.

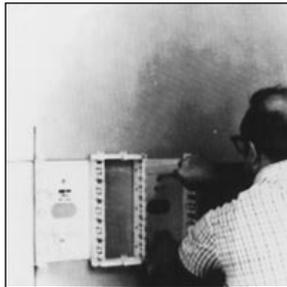
Note 2: For plywood mounting, use #8 3/4 inch (or 1/2 inch) long round-head wood screws. For other surfaces, use the appropriate hardware.



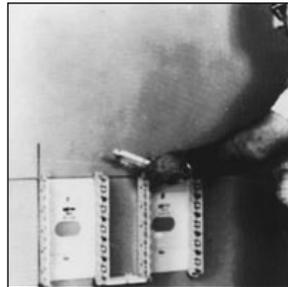
Step 1 – Align first mount and secure



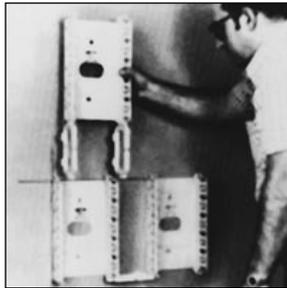
Step 2 – Engage both rings in first mount



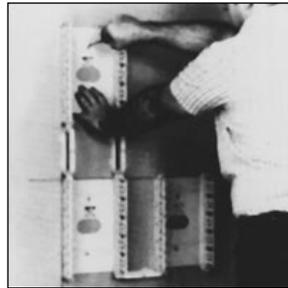
Step 3 – Secure 2nd mount



Step 4 – Remove upper ring



Step 5 – Engage both rings in 1st mount



Step 6 – Secure 3rd mount

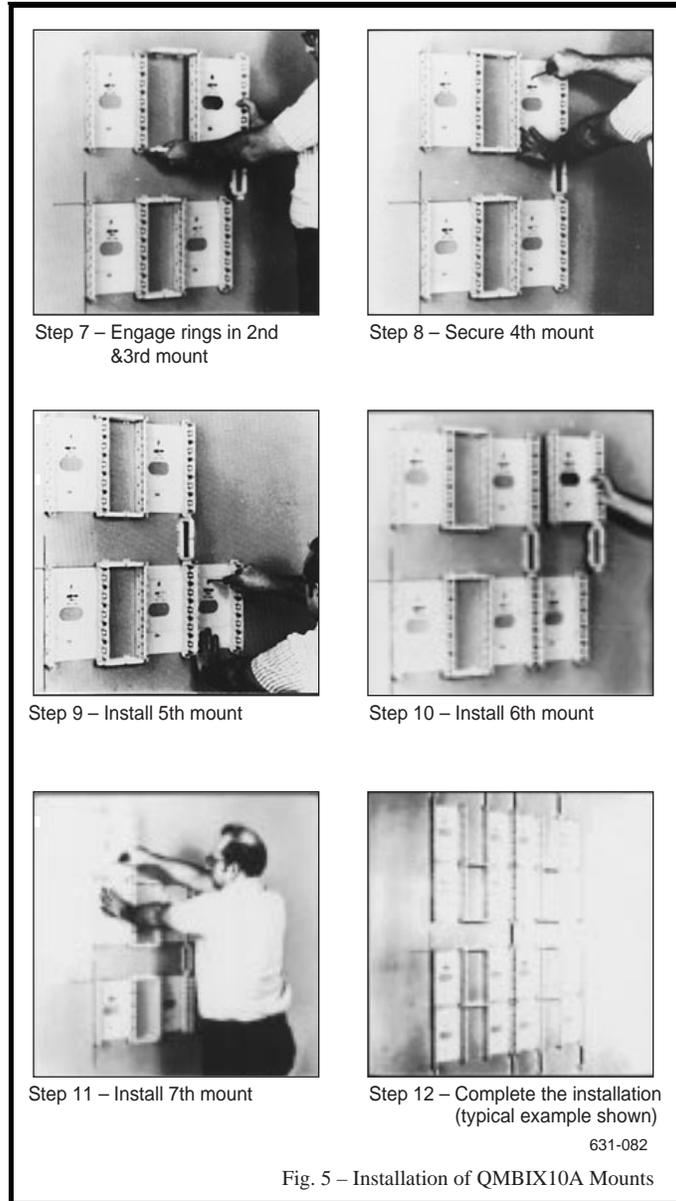


CHART 3
INSTALLATION OF QMBIX10A MOUNTS IN H303 CABLE TERMINAL SECTIONS

TOOLS: Screwdriver

MATERIALS: QMBIX10A mounts. 1/2 inch #8 round-head wood screws (2 per mount)

REFERENCES: Engineering work plan, or •BIX System Space Planning and Material Guide.

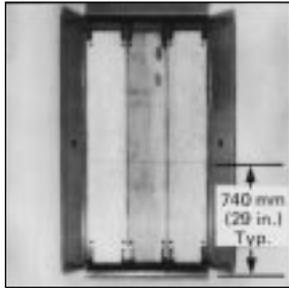
Note 1: Follow the detailed step-by-step procedure given in Fig. 6.

Note 2: BIX mounts are not grounded.

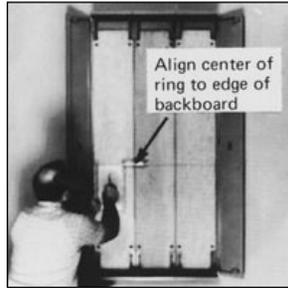
STEP	PROCEDURE
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- | | |
|----|--|
| 1. | Mark a horizontal line on the backboard – typically this line is 740 mm (29 inches) from the bottom of the H303. |
| 2. | <i>First Mount.</i> <ul style="list-style-type: none">(a) Attach a distribution ring to the top right-hand side of a mount.(b) Align the top of the mount to the horizontal line and the center of the ring at the space between the first and second backboards.(c) Secure the mount with two screws.(d) Remove the distribution ring. |
| 3. | <i>Second Mount.</i> <ul style="list-style-type: none">(a) Attach two distribution rings at left-hand side second mount.(b) Engage both rings in first mount.(c) Check horizontal alignment.(d) Secure mount with two screws. |
| 4. | <i>Third Mount.</i> <ul style="list-style-type: none">(a) Attach a distribution ring at top right-hand side of third mount.(b) Align the top of the mount to the horizontal line and the center of the ring at the edge of the third backboard(c) Secure the mount with two screws.(d) Remove the distribution ring. |

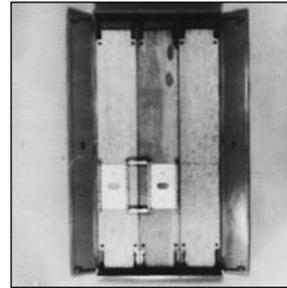
5. *Subsequent Mounts.* Install all the remaining mounts for the initial installation in the manner previously described. Check that distribution rings are installed as specified on the work plan.



Step 1 – Mark the backboard



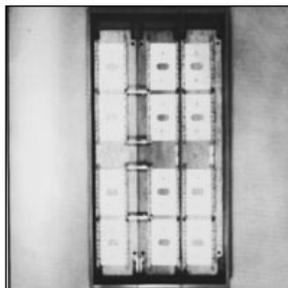
Step 2 – Install 1st mount



Step 3 – Install 2nd mount



Step 4 – Install 3rd mount



Step 5 – Complete the installation (typical example shown)

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Fig. 6 – Installation of QMBIX10A Mounts in H303 Cable Terminal Sections

Cable Preparation

4.01 *General.* It is important to remember to allow sufficient slack wire when preparing cables for termination in BIX connectors:

- *Upper Field.* Allow a minimum of 350 mm (14 inches) below the bottom of the mount on which cable is terminated (Fig. 7).
- *Lower Field.* Allow a minimum of 350 mm (14 inches) above the top of the mount (Fig. 8).

Note: Fig. 7 and 8 show the minimum slack required when preparing cable for the upper mount of each field.

4.02 Before proceeding with cable preparation, refer to Table A to locate the step corresponding to the type of cable being prepared and its location.

4.03 *Grounding and Bonding.* Refer to Div. 638 for the general procedures on grounding and bonding at installation.

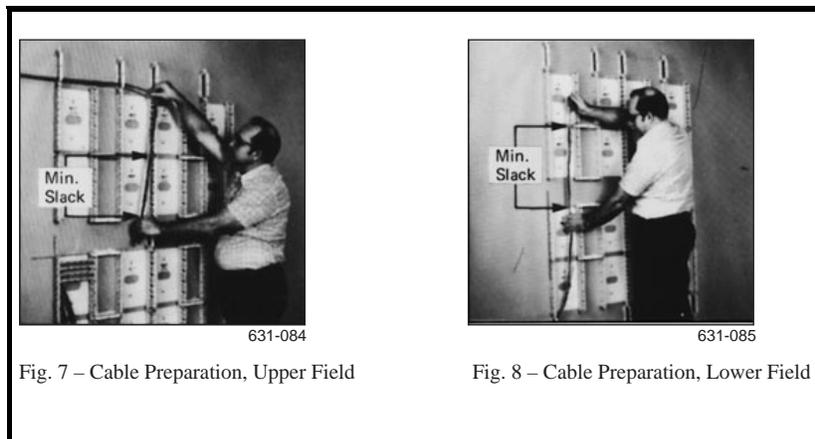


Fig. 7 – Cable Preparation, Upper Field

Fig. 8 – Cable Preparation, Lower Field

TABLE A
CABLE PREPARATION

CABLE TYPE	LOCATION	CHART 4. STEP	FIGURE
PIC	Upper Field	1	9
	Lower Field	1	12
E Inside Wiring	Lower Field	2	13
D Inside Wiring	Upper Field	3	10
	Lower Field	3	14
Z Station Wire (2-pair)	Upper Field	4	11
	Lower Field	4	15

CHART 4
CABLE PREPARATION

TOOLS: Skinning knife, or sheath removal tool, side-cutting pliers.

MATERIALS: Cable ties (size as required).

REFERENCES: Engineering work plan, or • BIX System Planning and Material Guide.

STEP PROCEDURE

PIC CABLE AND/OR PROTECTOR CABLE

1. *Upper Field (Fig. 9) and Lower Field (Fig. 12).*
 - (a) Remove the cable sheath approximately 150 mm (6 inches) back from the distribution ring.
 - (b) Where required, install a QCM-type bond clamp or equivalent.
 - (c) Tape the cable as far as the distribution ring, if desired.
 - (d) Place the binder groups through the appropriate distribution rings.
 - (e) Ground the cable according to standard practices.

Chart Continued

CHART 4 Continued
CABLE PREPARATION

STEP PROCEDURE

- (f) Tag each 25-pair binder group.
- (g) *Upper Field only.* Place all binder groups in the appropriate mount for termination.
- (h) *Lower Field only.* Place each binder group in the appropriate mount, one at a time, for terminating.

E. INSIDE WIRING CABLE

2 Lower Field (Fig. 13)

- (a) Group the cables into bundles not exceeding 25-pairs.
- (b) Secure each cable bundle with a cable tie.
- (c) Place the cable bundles through the appropriate distribution rings.

D. INSIDE WIRING CABLE

3 Upper Field (Fig. 10) and Lower Field (Fig. 14).

- (a) Place the cables through the appropriate distribution rings.
Note: Do not secure with a cable tie, as this causes cable-bunching at the entrance of the mount.
- (b) Upper Field Only. Place the cables in the appropriate mount.
- (c) Remove the sheath at the level of the conductor being worked on for termination later.

Z. STATION WIRE

4 Upper Field (Fig. 11) and Lower Field (Fig. 15).

- (a) Place the wires through the appropriate distribution rings.
- (b) Group the wires in bundles to a maximum of 24 pairs. (24 pairs is the maximum connector capacity for 2-pair Z station wire.)
- (c) Use a cable tie to hold wire bundle together.
- (d) *Upper Field only.* Place all wire bundles in the mount.
- (e) *Lower Field only.* Place wire bundles in mount, one at a time, as required for terminating.
- (f) Cut the sheather to the level of the connector being worked on.
- (g) Slide the sheath forward to maintain the wire identification for termination.

UPPER FIELD

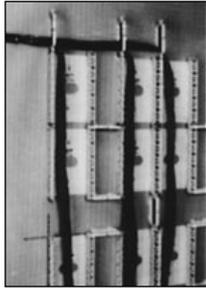


Fig. 9 - PIC Cable

Note:
E inside Wiring
Cable not used in
upper field

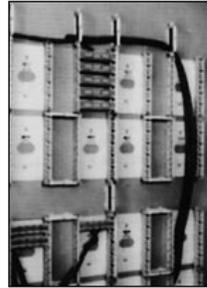


Fig. 10 - D Inside Wiring
Cable

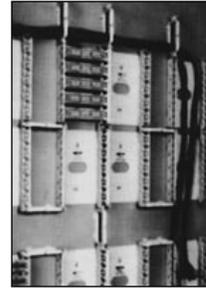


Fig. 11 - Z Station
Wire

LOWER FIELD

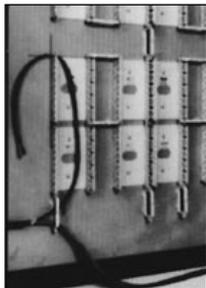


Fig. 12 - PIC Cable

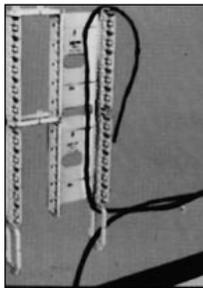


Fig. 13 - E Inside
Wiring Cable

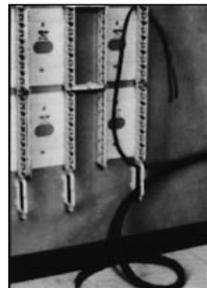


Fig. 14 - D Inside Wiring
Cable



Fig. 15 - Z Station
Wire

Cable Termination

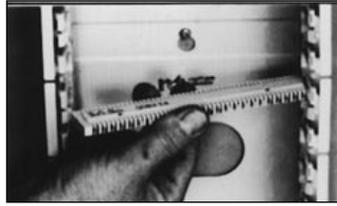
5.01 The procedure for terminating cables on BIX connectors is described in two charts:

- Chart 5 – general procedure using QCBIX1A connectors.
- Chart 6 – procedure (red field) using QCBIX5A and 7A connectors.

Insertion and Removal of BIX Connectors

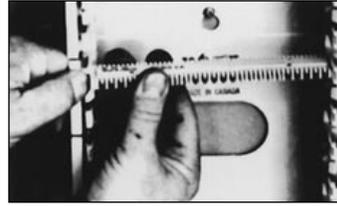
5.02 *QCBIX1A, 2A, 5A and 7A connectors* are inserted in a mount by placing one end of the connector in the appropriate latch of the fanning strip (Fig. 16), and pushing the other end of the connector into the mount. BIX connectors are removed from the mount by releasing the latch at one end and pulling forward (Fig. 17).

5.03 *QCBIX9A Connectors*. The QCBIX9A diode connector occupies two positions in a mount. To insert the 9A connector, place one end in the appropriate two latches of the fanning strip (Fig. 18), and push the other end of the connector into the mount. Remove the 9A connector by releasing both latches on one side of the mount (Fig. 19).



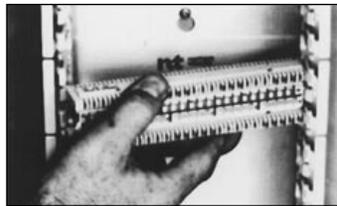
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Fig. 16 – Insertion of Connector



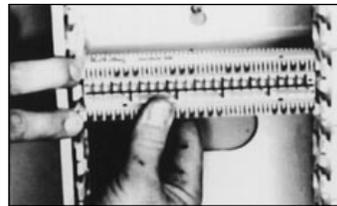
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Fig. 17 – Removal of Connector



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Fig. 18 – Insertion of 9A Connector



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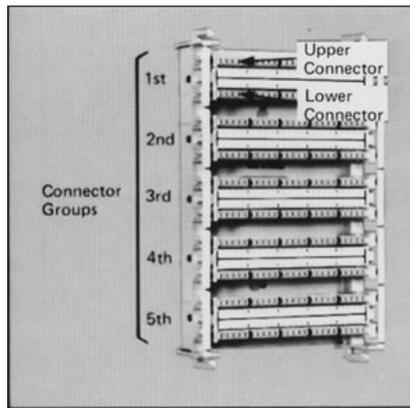
Fig. 19 – Removal of 9A Connector

Termination Procedure (QCBIXIA Connectors)

- 5.04 For terminating purposes only, the BIX connectors in the mount are considered in groups. The jumper wire slots in the fanning strip provide a convenient way of dividing the connectors into five groups (Fig. 20) Each connector group consists of an upper connector and a lower connector.
- 5.05 Before starting the termination procedure, note the following points:
- The upper connector of each connector group is normally terminated first,
 - Connectors are normally terminated starting from the top and working down towards the bottom of the mount.

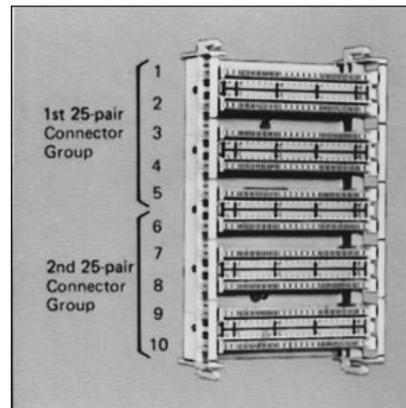
Termination Procedure Red Field (QCBIX5A, 7A Connectors)

- 5.06 For terminating purposes *in the red field*, the ten BIX connectors are considered as two groups of five connectors each (Fig. 21). Each connector group terminates one 25-pair cable or binder group. Before proceeding with red field termination, note the following points:
- the five connectors in the upper half of the mount are normally terminated first;
 - connectors are normally terminated starting from the top and working down towards the bottom of the mount.



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Fig. 20 – Connector Groups, Termination Procedure (QCBIX1A Connectors)



631-098

Fig. 21 – Connector Groups, Red Field Termination Procedure, (QCBIX5A, 7A Connectors)

CHART 5
CABLE TERMINATION PROCEDURE (QCBIXIA CONNECTORS)

TOOLS: QTBIX16A connection tool (2.01 through 2.05), side-cutting pliers, cable stripper or sheath removal tool.

MATERIALS: QCBIXIA connectors, cable ties.

REFERENCES: Engineering work plan, or •BIX System Space Planning and Material Guide Form.

Note 1: Follow the detailed step-by-step procedure given in Fig. 22.

Note 2: Cable is terminated on the connector so that it hinges on the jumper channel side.

Note 3: Check that the connectors are the correct QCBIX-type.

STEP PROCEDURE

UPPER CONNECTOR

1. Insert a cable tie in the connector.
2. Remove cable sheath to level of the connector being worked on. Place the wire bundle along the top of the connector, and *loosely* fasten the cable tie.
3. Slide the connector along the wire bundle to give approximately 180 mm (7 inches) of slack from the end of the sheath to the cable tie (180 mm is approximately the width of a BIX mount). Tighten the cable tie, and trim off the excess.
4. Insert the connector in the mount.

Note 1: The wire bundle should be on top of the connector.

Note 2: Cable tie should be towards the jumper channel (or distribution ring) side of mount.

Note 3: Cable should be on side of mount away from jumper channel.

5. Select the pairs and insert into the wire slots of the connector. Markings on the edge of the connector identify the 5-pair subbinder groups.

Note 1: Use the pair splitter on the front edge of the connector to separate Tip and Ring (Tip-left, Ring-right).

Note 2: All wire pairs should be pointing down.

6. Terminate the pairs and cut off the ends with the QTBIX16A connection tool (2.04).

Note: Set the connection tool as follows:

- Select button to CUT
- Cutting-side (back blade) pointing down.

Chart Continued

CHART 5 Continued
CABLE TERMINATION PROCEDURE (QCBIX1A CONNECTORS)

STEP PROCEDURE

7. Remove the connector from the mount. Turn the connector over so that the wire bundle is at the bottom. Dress the cable in the mount to the side away from the jumper channel. Firmly press the cable pairs to the back edge of the connector.
8. Insert the connector in mount. (Cable tie end adjacent to the jumper channel first.) Dress the cable in the mount to the side away from the jumper channel.

LOWER CONNECTOR

9. Insert a cable tie in the connector.
10. Remove cable sheath to the level of connector being worked on. Place wire bundle along the bottom of the connector. Loosely fasten the cable tie. Slide the connector along the wire bundle to give approximately 180 mm (7 inches) of slack from end of sheath to the cable tie (180 mm is approximately the width of a BIX mount). Tighten cable tie. Trim off excess.
11. Insert the connector in the mount.
Note 1: The wire bundle should be on the bottom of the connector.
Note 2: Cable tie should be towards the jumper channel (or distribution ring) side of mount.
Note 3: Cable should be on side of mount away from jumper channel.
12. Select pairs and insert into the wire slots of the connector. Markings on the edge of the connector identify the 5-pair subbinder groups.
Note 1: Use the pair splitter on the front edge of the connector to separate Tip and Ring (Tip-left, Ring-right).
Note 2: All wire pairs should be pointing up.
13. Terminate the pairs with the QTBIX16A connection tool (2.04).
Note: Set the connection tool as follows:
 - Select button to CUT
 - Cutting side (black blade) pointing up.
14. Remove the connector from the mount. Turn connector over so that wire bundle is at the top. Firmly press the cable pairs to the back edge of the connector.
15. Insert the connector in the mount. (Cable tie end adjacent to the jumper channel first). Dress the cable in the mount to the side away from the jumper channel.

CHART 6
TERMINATION PROCEDURE, RED FIELD (QCBIX5A, 7A CONNECTORS)

TOOLS: QTBIX16A connection tool (2.01 through 2.05), side-cutting pliers, cable stripper or sheath removal tool.

MATERIALS: QCBIX5A or 7A connectors, cable ties.

REFERENCES: Engineering work plan, or •BIX System Space Planning and Material Guide.

Note 1: Follow the detailed step-by-step procedure given in Fig. 23.

Note 2: Check that the connectors are the correct QCBIX-type.

Note 3: The following procedure is for either PIC or D inside wiring cable. Fig. 23 shows D inside wiring cable.

STEP PROCEDURE

FIRST CONNECTOR GROUP

1. First Connector. Place subbinder group (white Tip) on top of connector, and loosely fasten with a cable tie.
2. Slide connector along wire bundle to give approximately 180 mm (7 inches) of slack from the end of the sheath to the cable tie (180 mm is approximately the width of a BIX mount). Tighten cable tie, and trim off the excess.
3. Insert connector in mount (cable tie end adjacent to jumper channel).

Note 1: Wire bundle should be on top of connector.

Note 2: Cable tie should be toward the jumper channel (or distribution ring) side of mount.

Note 3: Cable should be on side away from jumper channel.
4. Select pairs and insert into the first pair position of each group as identified by the markings on the edge of the connector:

QCBIX5A: 1, 6, 11, 16, 21
QCBIX7A: 1, 3, 10, 17, 24

Note 1: Use the pair splitter on the front edge of the connector to separate Tip and Ring (Tip-left, Ring-right).

Note 2: All wire pairs should be pointing down.
5. Terminate the pairs and cut off the ends with the QTBIX16A connection tool (2.04). Remove connector from the mount, and turn the connector over so that the wire bundle is at the bottom. Firmly press the cable pairs to the back edge of the connector

Chart Continued

CHART 6 Continued
TERMINATION PROCEDURE, RED FIELD (QCBIX5A, 7A CONNECTORS)

STEP PROCEDURE

6. Insert the connector in the mount (cable tie end adjacent to the jumper channel first). Dress the cable in the mount on the side away from the jumper channel.
7. *Second Connector.* Place subbinder group (red Tip) on bottom of connector, and loosely fasten with a cable tie. Slide connector along wire bundle to give approximately 130 mm (7 inches) of slack from the end of the sheath to the cable tie (180 mm is approximately the width of a BIX mount). Tighten the cable tie, and trim off the excess.
8. Insert the connector in the mount.
Note 1: The wire bundle should be on the bottom of the connector.
Note 2: Cable tie should be towards the jumper channel (or distribution ring) side of the mount.
Note 3: Cable should be on the side of the mount away from the jumper channel.
9. Select pairs and insert into the first pair position of each group as identified by the markings on the edge of the connector:
QCBIX5A: 1, 6, 11, 16, 21
QCBIX7A: 1, 3, 10, 17, 24
Note 1: Use the pair splitter on the front edge of the connector to separate Tip and Ring (Tip-left, Ring-right).
Note 2: All connector pairs should be pointing up.
10. Terminate the pairs and cut off the ends with the QTBI16A connection tool (2.04). Remove the connector from the mount, and turn the connector over so that the wire bundle is at the top. Firmly press the cable pairs to the back edge of the connector. Insert the connector into the mount (cable tie end adjacent to the jumper channel first). Dress the cable in the mount on the side away from the jumper channel.
11. *Third, Fourth, and Fifth Connectors.*
 - *Third Connector:* Terminate the subbinder group (black Tip) as given in steps 1 through 6.
 - *Fourth Connector:* Terminate the subbinder group (yellow Tip) as given in Steps 7 through 10.
 - *Fifth Connector:* Terminate the subbinder group (violet Tip) as given in Steps 1 through 6.

Chart Continued

CHART 6 Continued
TERMINATION PROCEDURE, RED FIELD (QCBIX5A, 7A CONNECTORS)

STEP PROCEDURE

SECOND CONNECTOR GROUP

- 12 *Sixth Connector.* Place subbinder group (white Tip) on the connector, and loosely fasten with a cable tie.
- 13 Repeat the termination procedure given in Steps 7 through 10.
- 14 *Subsequent Connectors.*
 - *Seventh Connector:* Terminate the subbinder group (red Tip) as given in Steps 1 through 6.
 - *Eighth Connector:* Terminate the subbinder group (black Tip) as given in Steps 7 through 10.
 - *Ninth Connector:* Terminate the subbinder group (yellow Tip) as given in Steps 1 through 6.
 - *Tenth Connector:* Terminate the subbinder group (violet Tip) as given in Steps 7 through 10.

CHART 7
INSTALLATION OF QHBIX12-TYPE WIRING HARNESSSES

TOOLS: None

MATERIALS: QHBIX12-type wiring harnesses (as required).

REFERENCES: Engineering plan, or •BIX System Space Planning and Material Guide.

Note 1: Ensure that the harnesses are the correct QHBIX-type specified on the plan: QHBIX12A has connectors numbered 1 through 5, QHBIX12B has connectors numbered 6 through 10.

Note 2: Wiring harness connectors are always inserted in the mount with the number facing up.

Note 3: Follow the detailed step-by-step procedure given in Fig. 24.

STEP PROCEDURE

QHBIX12A HARNESS

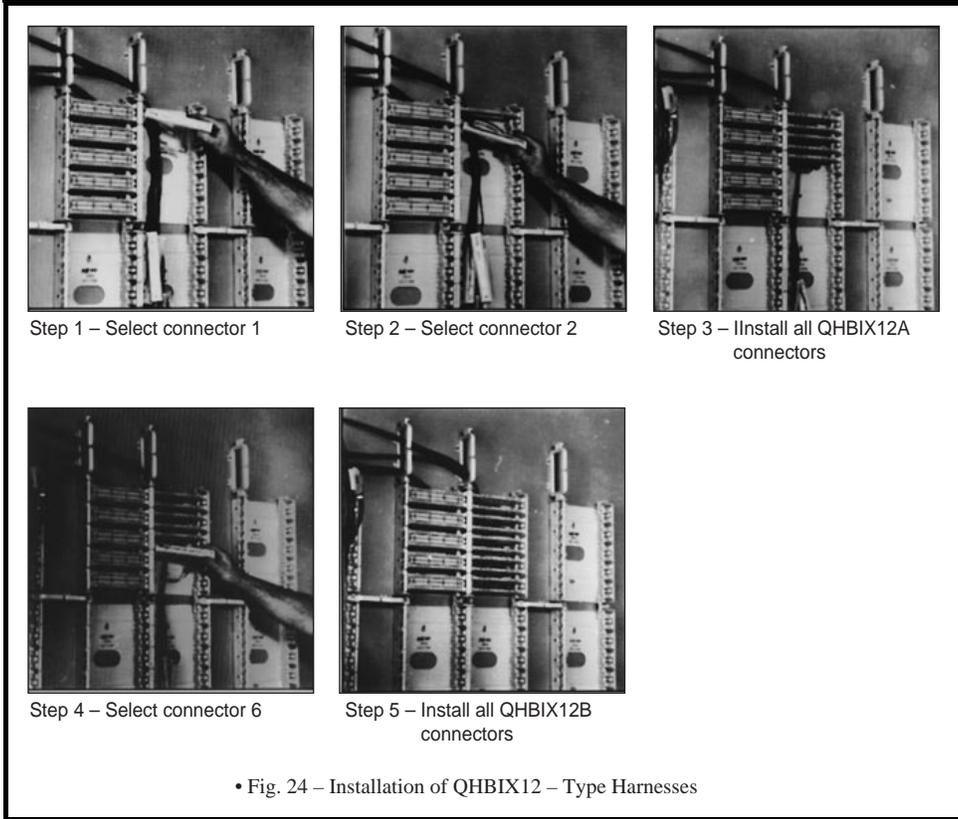
1. Select connector #1 and insert in the mount.
2. Select connector #2 and insert in the mount.

Note: The wire bundle is on the bottom for connector #1 and on the top for connector #2.

3. Insert connectors #3, #4, and #5 in the correct sequence in the mount.

QHBIX12B HARNESS

4. Select connector #6 and insert in the mount.
5. Insert connectors #7, #8, #9, and #10 in the correct sequence in the mount.



Designation

CHART 8 INSTALLATION AND REMOVAL OF DESIGNATION STRIPS

TOOLS: Pen or pencil.

MATERIALS: QSBIX20A designation strips, BIX designation labels.

REFERENCES: Engineering work plan, or •BIX System Space Planning and Material Guide Form.

STEP	PROCEDURE
------	-----------

INSTALLATION

1. Select the designation label of the correct type and color.
2. Attach adhesive label to the designation strip (Fig. 25).

Caution: For correct alignment of the label and the connector, line up the end of the label with the end of the designation strip.

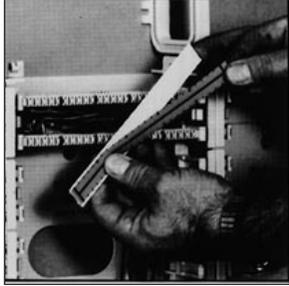
3. Mark any additional information on the designation label with pen or pencil (▲ Pen Marking Z).

Note : Additional designation can be marked on the fanning strip as required.

4. Insert the designation strip in the mount (Fig. 26).

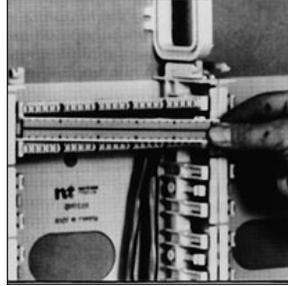
REMOVAL

5. To release the designation strip, press back on the plastic snap of the fanning strip (Fig. 27). The designation strip releases on the opposite side of the mount.



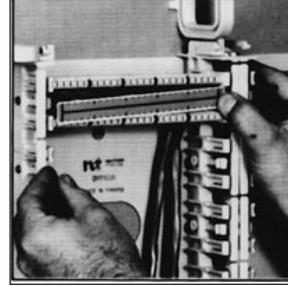
631-102

Fig 25 – Attach label to Designation Strip



631-103

Fig 26 – Insert Designation Strip in the Mount



631-104

Fig 27 – Removal of Designation Strip

▲ Bell Canada application

Cross Connection

- 8.01 *Installing Wires.* Install cross-connecting according to the connection list, (or service order), as described in Chart 9.
- 8.02 *Removing Wires.* Remove wires from a BIX connector by taking one pair at a time and pulling forward, and away from the connector.
- 8.03 When wires are incorrectly removed from the connector, small pieces of insulation may remain in the connector. Carefully remove any small insulation pieces that remain using long-nosed pliers.

CHART 9 CROSS-CONNECTION PROCEDURE

TOOLS: QTBIX16A connection tool.

MATERIALS: Cross-connecting wire.

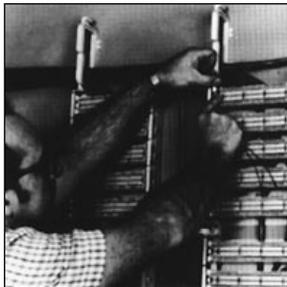
REFERENCES: Cross-connecting list, or service order.

Note: Follow the detailed step-by-step procedure given in Fig. 28.

STEP PROCEDURE

1. Insert cross-connecting wire in the connector. Insert pairs one at a time at the specified pair location (Tip-left, Ring-right).
2. Pull wire taut.
Insert wire in slots of fanning strip. Feed wire through slots of distribution rings. Insert wire in slots of fanning strip (second location).

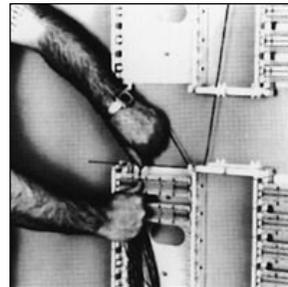
3. Allow approximately 75 mm (3 inches) of slack wire. (The width of the hand is an approximate measurement of the slack necessary.)
4. Terminate the cross-connecting wire (on both connectors) with the connection tool (2.04).
Note: Do not terminate more than one wire in the clip.
5. Dress the slack wire in the jumper channel.



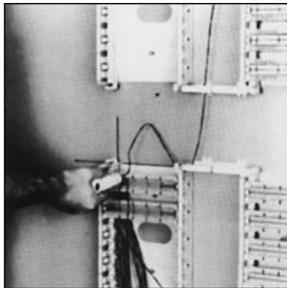
Step 1 – Insert cross-connect wire in connector



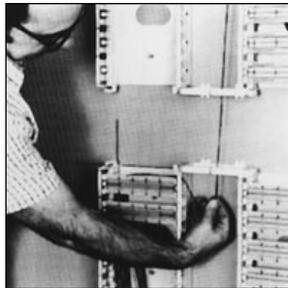
Step 2 – Feed wire in jumper channel



Step 3 – Leave 75mm slack.
Insert wire in connector



Step 4 – Terminate wire on both connectors



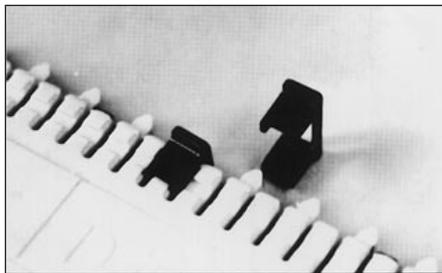
Step 5 – Dress slack wire in jumper channel

Fig. 28 – Cross-Connection Procedure

Installation and Removal of QGBIX23A Special Service Guard

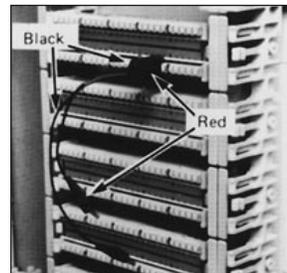
9.01 *Installation.* Hold the QGBIX23A between thumb and forefinger and insert into the BIX connector, ensuring it is centered over the pair splitter (Fig. 29).

9.02 *Removal.* Remove the guard by pulling it away from the connector.



631-070

Fig. 29 – QGBIX23A Special Service Guard



631-106

Fig. 30 – Single Pair Testing

Testing

Single-Pair Testing

- 10.01 Insert the QTBI17A test probe into the BIX connector with the probe centered over the pair splitter (Fig. 30). For testing of individual conductors, use either the metal lugs at top and bottom of the test probe, or the alligator clips on the ends of the leads to access the conductors.

Note 1: Use additional test probes to test more than one circuit at a time (including testing of adjacent pairs).

Note 2: On the test probe, RED (right) indicates Ring; BLACK indicates Tip.

Pair Testing

- 10.02 *Test Connector.* Insert the QTBI22A test connector into the BIX connector as shown in (Fig. 31). With the test connector in position (Fig. 32) the top row of exposed contacts access the Tip appearances and the bottom row access the Ring appearances.

Note 1: Ensure that the spring clips at each end of the test connector are fully engaged in the fanning strips.

Note 2: Remove the test connector by releasing the spring clips at each end of the test connector (Fig. 33).

- 10.03 *Test Shoe.* Insert the QTBI21A test shoe into the BIX connector and connect the 25-pair Cinch-Jones connector to the appropriate test set.

Note: The test shoe is inserted and removed from the BIX connector in the manner previously described for the test connector (Fig. 31, 33).

Servicing

CHART 10 REPLACING A DISTRIBUTION RING

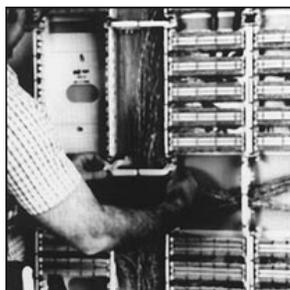
TOOLS: None

MATERIAL: Replacement QRBIX19A Distribution Ring.

REFERENCES: Fig. 34.

STEP PROCEDURE

1. Carefully pull the distribution ring forward from mount(s).
2. Rotate the ring.
3. Spread the ring, and carefully remove the jumper wires.
4. Install a replacement ring by repeating Steps 1 through 3 in reverse order.



Step 1 – Pull ring forward



Step 2 – Rotate ring



Step 3 – Remove jumper wires

Fig. 34 – Replacing a Distribution Ring

CHART 11
ACCESSING THE REAR OF A BIX CONNECTOR

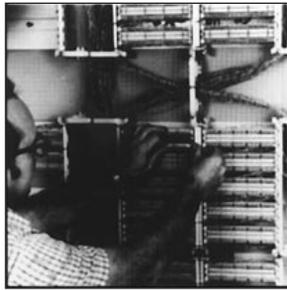
TOOLS: None

MATERIAL: None

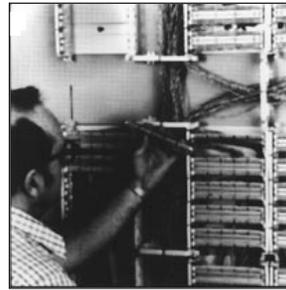
REFERENCES: Fig. 35.

STEP PROCEDURE

1. Remove the designation strip (Chart 8, Step 5). Release the connector from the mount on the side away from the jumper channel.
2. Remove connector access the rear of the connector by rotating outwards.



Step 1 – Remove designation, strip, release connector



Step 2 – Access rear of connector

Fig. 35 – Accessing the Rear of a BIX Connector

631-111

CHART 12
REPLACING A CABLE

TOOLS: QTBIX16A connection tool, side-cutting pliers.

MATERIAL: Replacement cable.

REFERENCES: Fig. 36

STEP PROCEDURE

1. Remove the designation strip (Chart 8, Step 5). Carefully remove jumpers from fanning strip. Remove the connector associated with the cable to be replaced, and access the rear of the connector (Chart 11). Cut the cable tie.
2. Remove the cable pairs one at a time.
3. Remove old cable. Feed new cable through the rear of the mount.

Note: Allow sufficient slack for termination later

4. Strip cable sheath to the level required.
5. Insert cable tie in connector (on jumper channel side).
6. Place wire bundle on connector. Loosely fasten cable tie. Slide connector along the wire bundle to give a slack of approximately 180 mm (7 inches). Tighten the cable tie, and trim off the excess.
7. Insert connector in mount, and terminate the cable pairs (Chart 5).

Note: For upper connectors the wire bundle is on top, and for lower connectors the wire bundle is on the bottom.

Remove the connector from the mount, rotate, and reinsert into the mount. Replace jumpers in fanning strip. Replace designation strip.

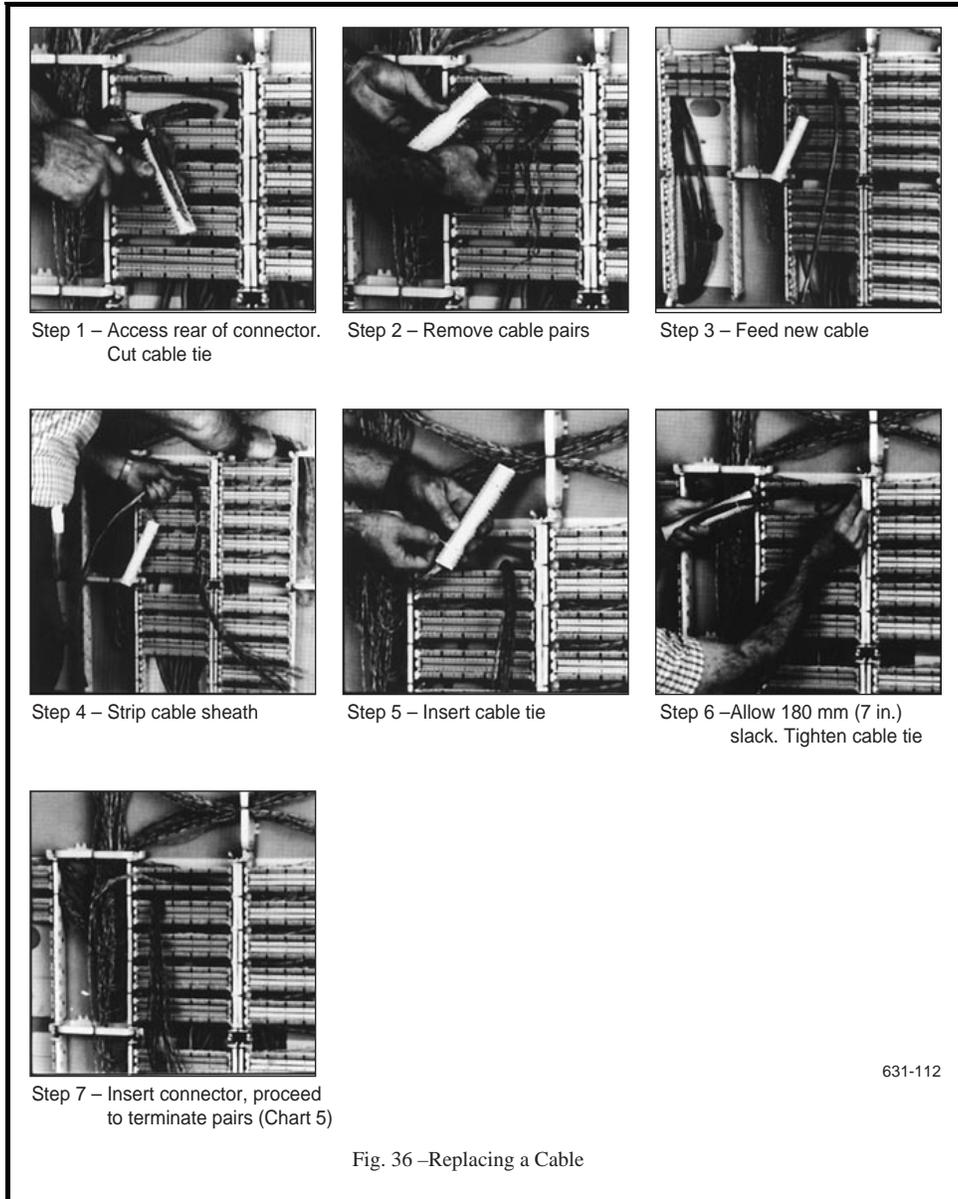


CHART 13
REPLACING A BIX CONNECTOR

TOOLS: QTBIX16A connection tool, side-cutting pliers.

MATERIAL: One QCBIX-type connector.

REFERENCES: Fig. 37

STEP PROCEDURE

INITIAL PREPARATION

1. Remove the designation strip (Chart 8, Step 5.) Remove the damaged connector (Chart 11).

Caution: Take care when feeding the jumper wires out of the fanning strip.

TRANSFER OF CABLE PAIRS

2. Place cable tie on new connector, and *loosely* fasten to wire bundle. Cut the cable tie on the old connector.
3. Remove cable pairs from old connector. Tighten the cable tie on new connector, trim off the excess.

Note: Do not remove jumper wires at this time.

4. Insert cable pairs in new connector in the correct color sequence.
5. Insert new connector in the mount, and terminate the cable pairs. Remove connector, rotate, and reinsert in the mount. (Chart 8).

Note: For upper connector the wire bundle is on top, and for lower connectors the wire bundle is on the bottom.

TRANSFER OF JUMPER WIRES

6. Remove the connector *either* above or below as necessary. Install old connector in that position.

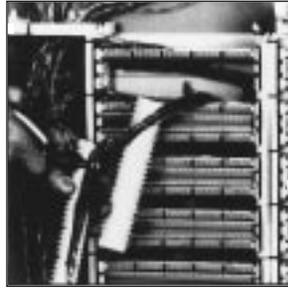
Note 1: For lower connectors, remove the connector above. For upper connectors, remove the connector below.

Note 2: Take care not to damage the connector being temporarily removed.

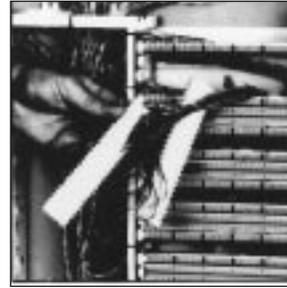
7. Fan the jumper wires from the old connector into the new connector.
 8. Terminate the jumper wires on the new connector.
 9. Remove the old connector from the upper (or lower) position. Insert the connector temporarily removed. Carefully replace jumper wires in the fanning strip of the mount. Replace designation strip.
-



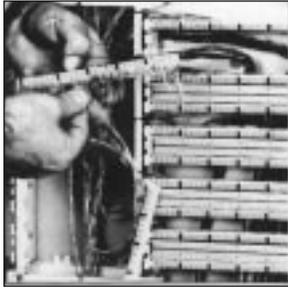
Step 1 – Remove connector from mount



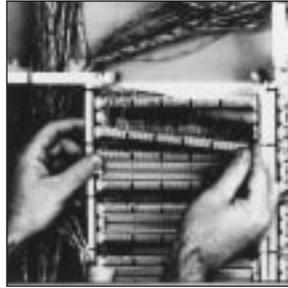
Step 2 – Attach cable tie to new connector and fasten to wire bundle. Cut cable tie on old connector



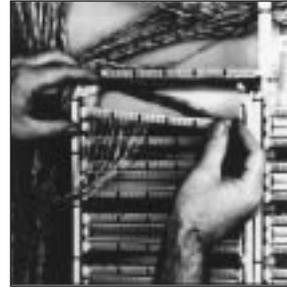
Step 3 – Old connector:
– Remove pairs
New connector:
– Tighten cable tie



Step 4 – New connector-insert cable pairs



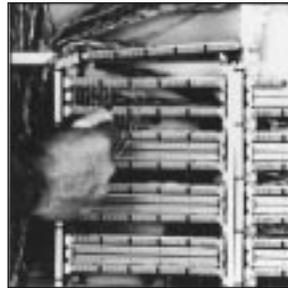
Step 5 – Insert new connector in mount. Terminate cable pairs



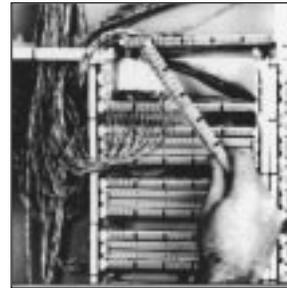
Step 6 – Remove connector either above or below. Install old connector



Step 7 – Fan jumper wires from old connector to new connector



Step 8 – Terminate jumper wires



Step 7 – Remove old connector from upper (or lower) position. Insert connector temporarily removed. Replace jumper wires in fanning strip of mount

631-113

Fig. 37 –Replacing a BIX Connector

CHART 14
REPLACING A QMBIX10A MOUNT

TOOLS: Screwdriver.

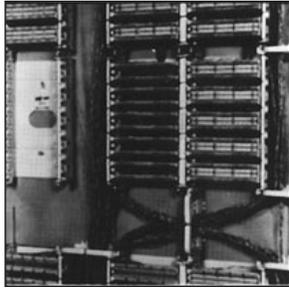
MATERIAL: Replacement QMBIX10A mount.

REFERENCES: Fig. 38.

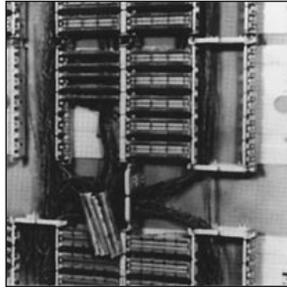
Note: The sequence shows a mount being replaced in a red field. Other mounts are replaced similarly.

STEP PROCEDURE

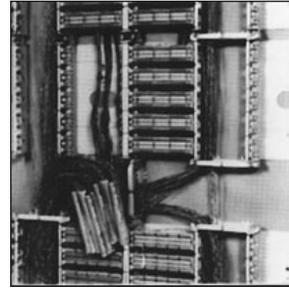
1. Remove all designation strips and distribution rings.
2. *Carefully* remove the lower *five* connectors with the associated jumper wires from the mount.
3. *Carefully* remove the upper *five* connectors and associated jumper wires from the mount.
4. Remove screws securing mount.
5. Remove mount.
6. Install new mount by reversing the procedure given in Steps 1 through 5.



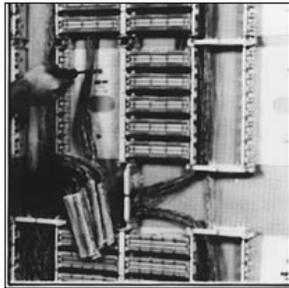
Step 1 – Remove designation strips and rings



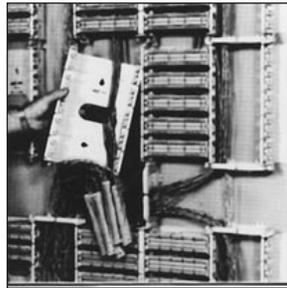
Step 2 – Remove LOWER five connectors



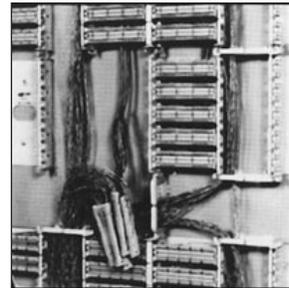
Step 3 – Remove UPPER five connectors



Step 4 – Remove screws from mount



Step 5 – Remove mount



Step 6 – Install new mount

631-114

Fig. 38 –Replacing a QMBIX10A Mount

BIX*

In-Building Cross-Connect System
Material Installation and Servicing
(Wall-Mounted System)

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