

Part No. P0993134 01

Business Communications Manager

BIX Box Wiring Guide

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Preface

This guide provides a pictorial overview about how to install a BIX box and wire it for the internal and external (trunks) hard wire connections for the Business Communications Manager.

To use this guide, you must:

- be a Nortel Networks installer with Business Communications Manager certification
- know basic Nortel Networks terminology

Regulations

Refer to the *Business Communications Manager Installation and Maintenance Guide* for the regulatory information that affects the Business Communications Manager hardware, software, and configuration.

Related Publications

For more information about the Business Communications Manager and equipment installation, refer to:

- *Business Communications Manager Installation and Maintenance Guide* describes how to install the Business Communications Manager hardware, including the wiring for the media bay modules.
- *Business Communications Manager Programming Operations Guide* describes how to program the Business Communications Manager equipment.

Chapter 1

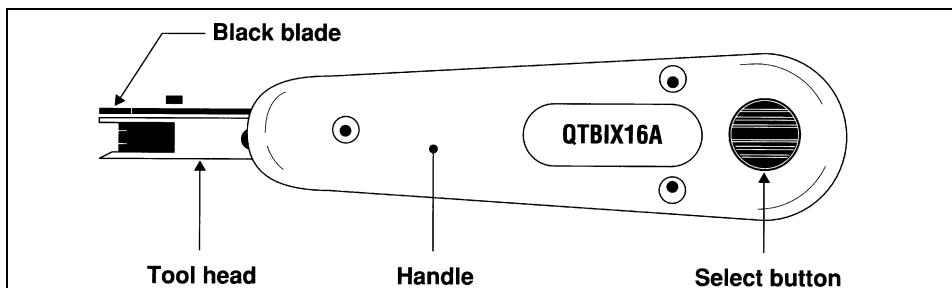
BIX Wiring Overview

This guide provides a process and descriptions about wiring and labelling the BIX connectors.

Using the BIX Tool

This section describes the BIX tool and how to use it. [Figure 1](#) shows a picture of the tool

Figure 1 QTBIX16A BIX tool

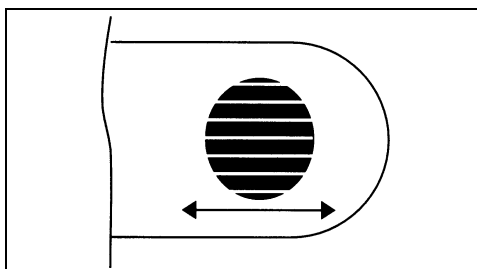


Operating the Tool in the Cut Position

Follow these steps to use the tool in the cut position.

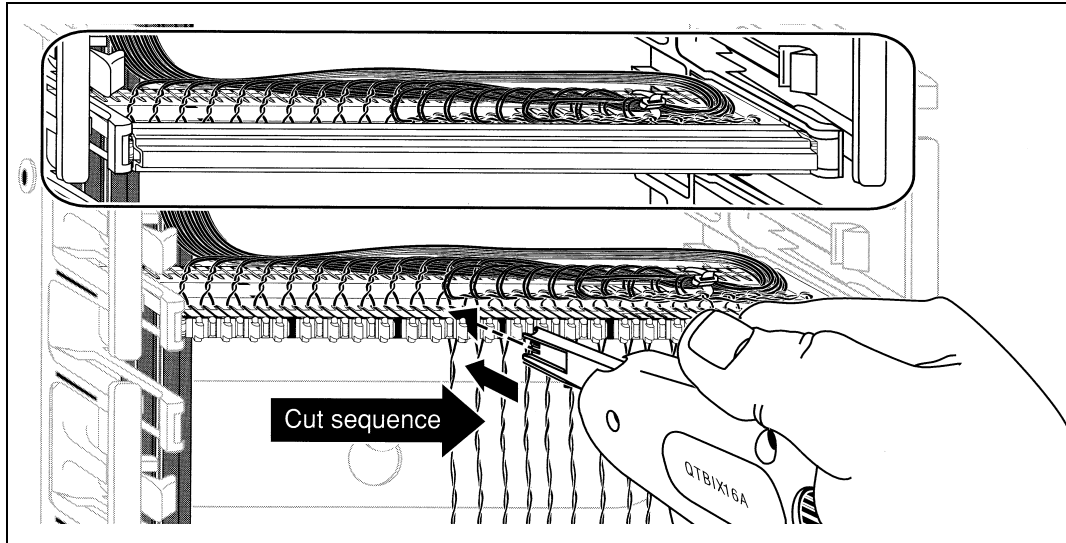
- 1 Set the tool to the cut position. Refer to [Figure 2](#).
- 2 Point the black blade towards the wire end to cut off.

Figure 2 How to set the BIX tool to the cut position



- 3 Insert the tool, on the connector, at a right angle and level. Refer to [Figure 3](#)
- 4 Push the tool to seat the wire in the connector.
- 5 Release forward pressure to cut the wire.

Figure 3 Operating the BIX tool in cut position

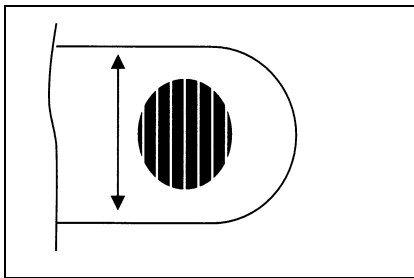


Operating the Tool in the No-cut Position

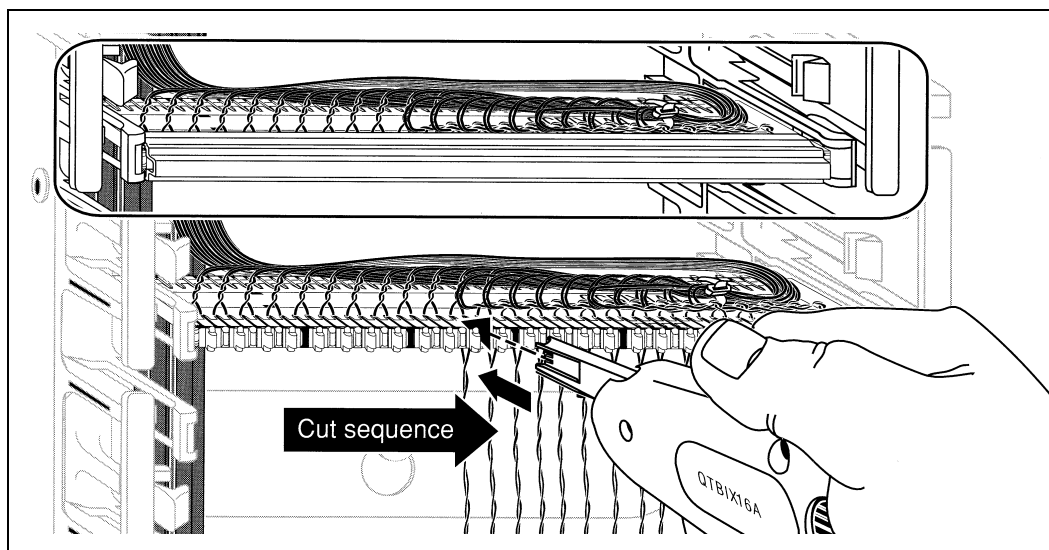
Follow these steps to use the Bix tool in the no-cut position:

- 1 Set the tool to the no-cut position. Refer to [Figure 4](#).

Figure 4 How to set the BIX tool to the no cut position.



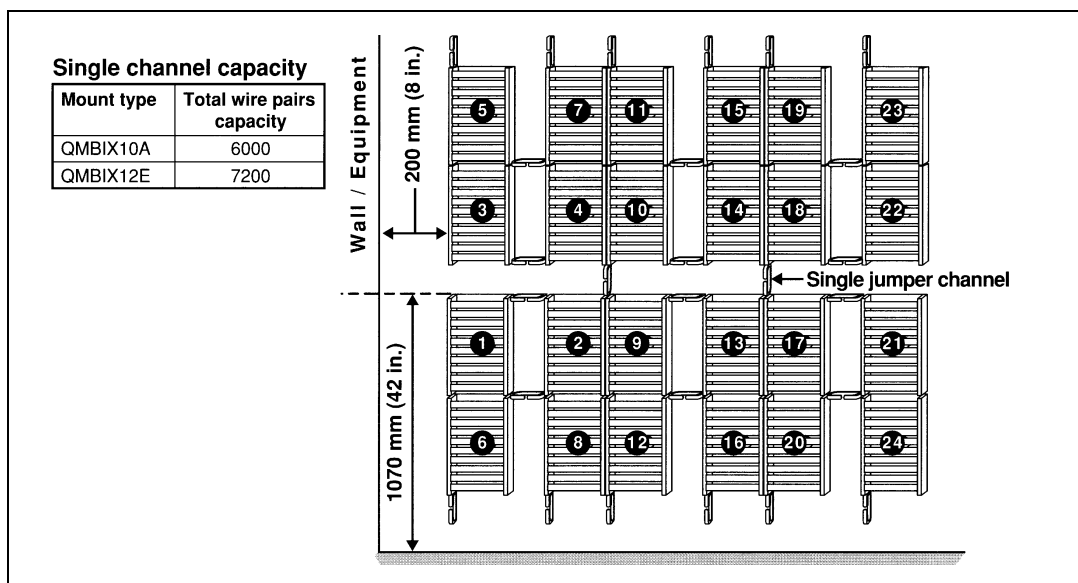
- 2 Keep the tool level and at right angles to the connector. Refer to [Figure 5 on page 11](#).
- 3 Push the tool to seat the wire in the connector.

Figure 5 Operating the BIX tool in no cut position

Installing the BIX Mount

This section describes a single-channel installation. [Figure 6](#) provides a diagram of this type of configuration.

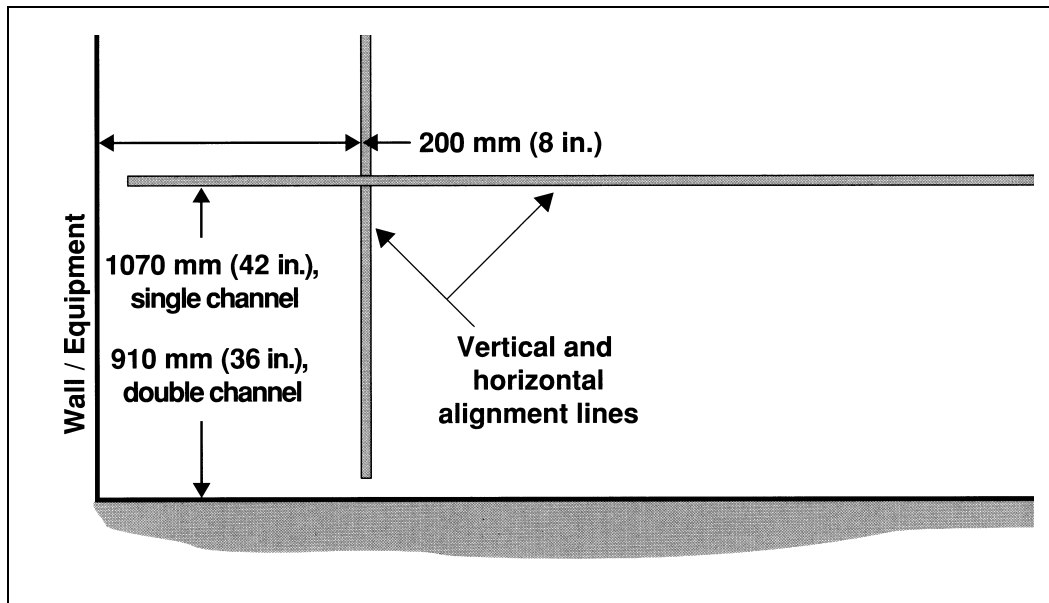
- Use the upper field for the equipment side.
- Use the lower field for the house side or telephone/switching center side.

Figure 6 Example of a single channel installation

These steps describe how to mount a single-channel BIX block.

- 1 Draw vertical and horizontal reference lines on the wall mounting surface. Refer to [Figure 7](#).

Figure 7 Clearances required for installing BIX panels on the wall



- 2 Install the screws to install the bottom mounts. Refer to [Figure 8](#) to [Figure 9](#).

Figure 8 Install the first mount

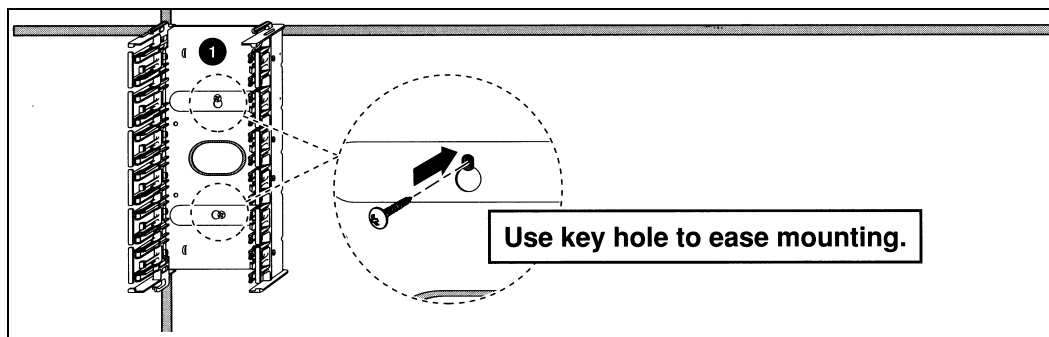
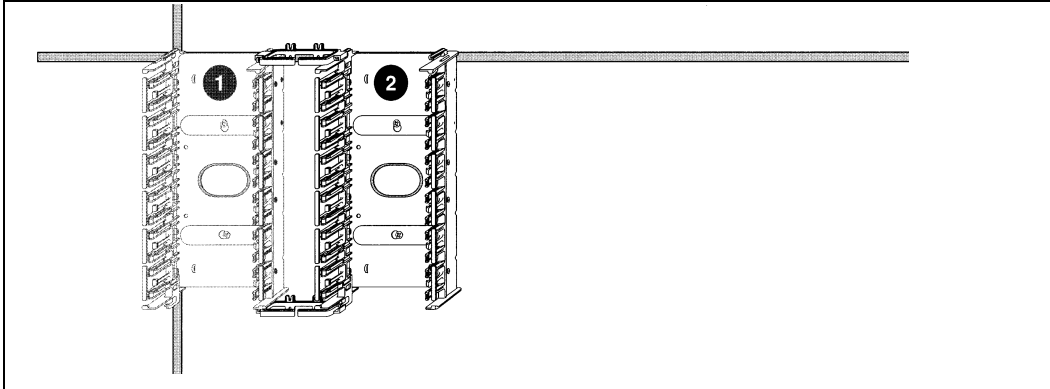
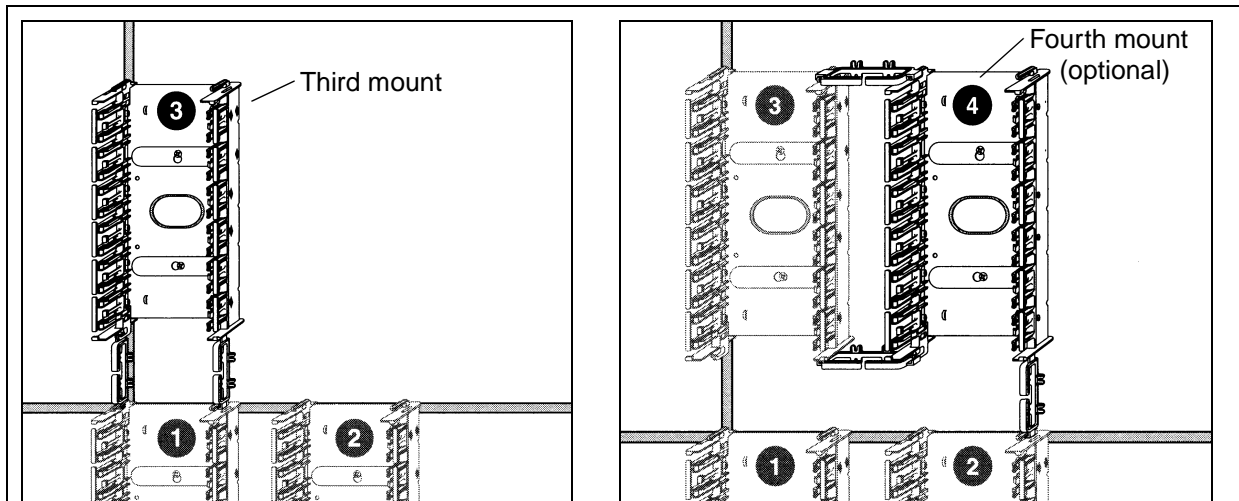
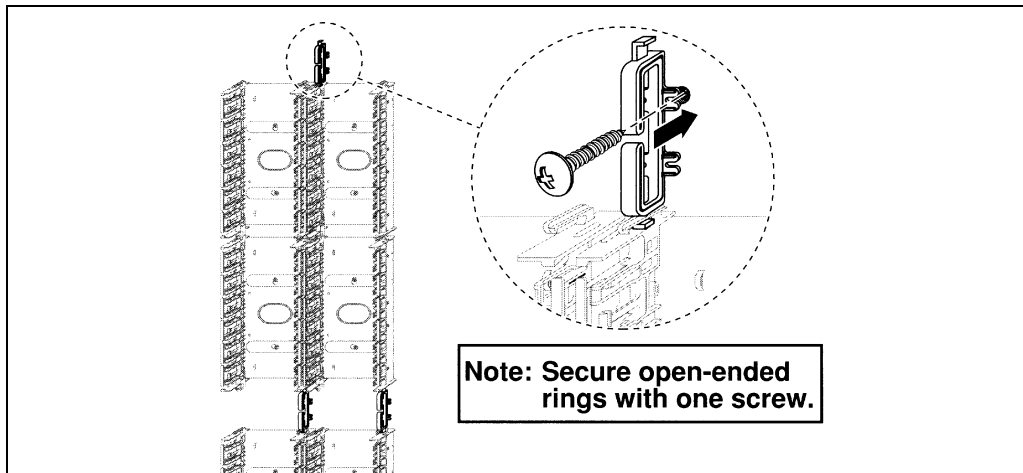


Figure 9 Install the second mount

3 Install the screws to install the top mounts. Refer to [Figure 10](#).

Figure 10 Install the third mount and fourth (optional) mount

4 Install the distribution rings above the mounts. Refer to [Figure 11](#).

Figure 11 Install the distribution rings

Connecting the BIX Cables

Once the mounts are installed, set up the cable pathways. Ensure that the cable bending radius complies with the note below.



Note: The bending radius is four times the cable diameter for four-pair cables. For multi-pair cables, the bending radius is 10 times the cable diameter.

Figure 12 demonstrates how to route the cable into the mount at the correct bending radius.

Figure 12 Route incoming cables for connection on the BIX panel

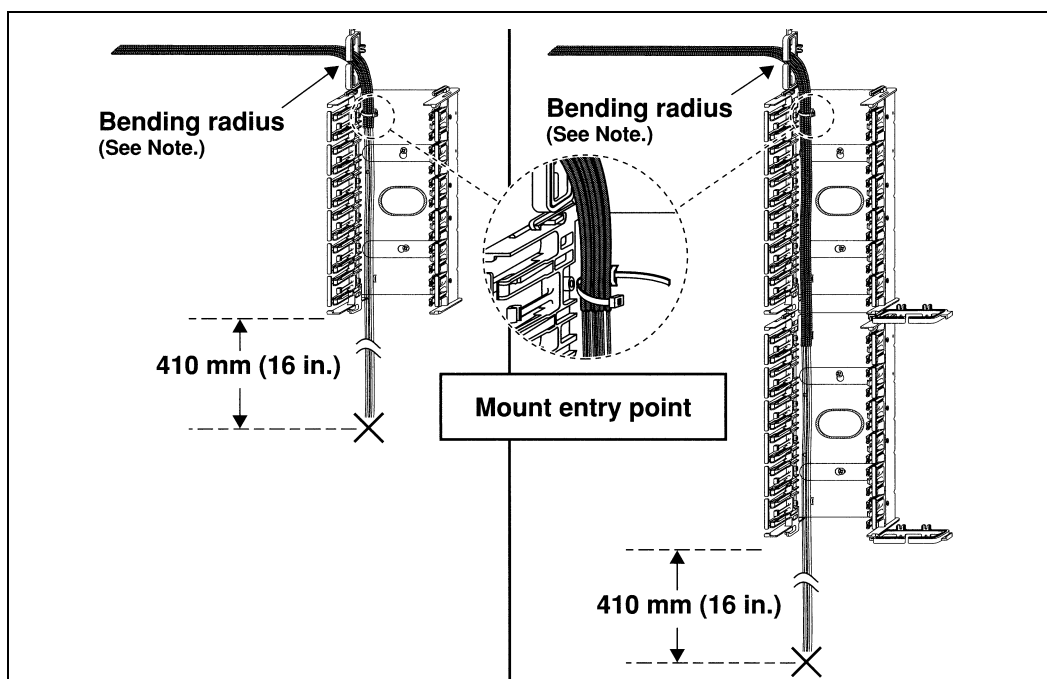


Figure 13 and Figure 14 on page 15 demonstrate how to insert and remove the upper and lower BIX connectors.

Figure 13 How to insert the upper and lower BIX connectors

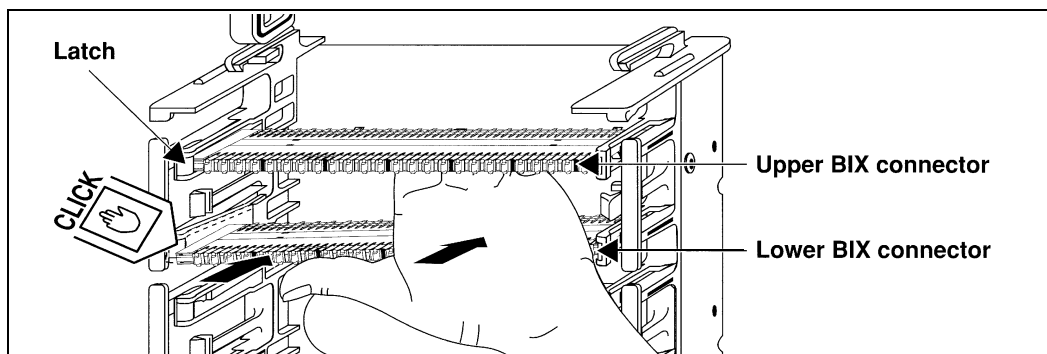
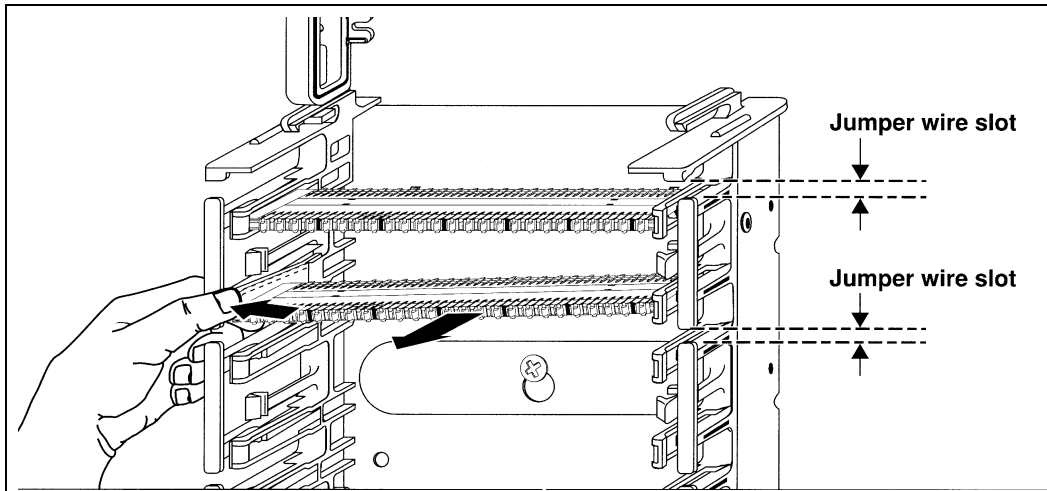


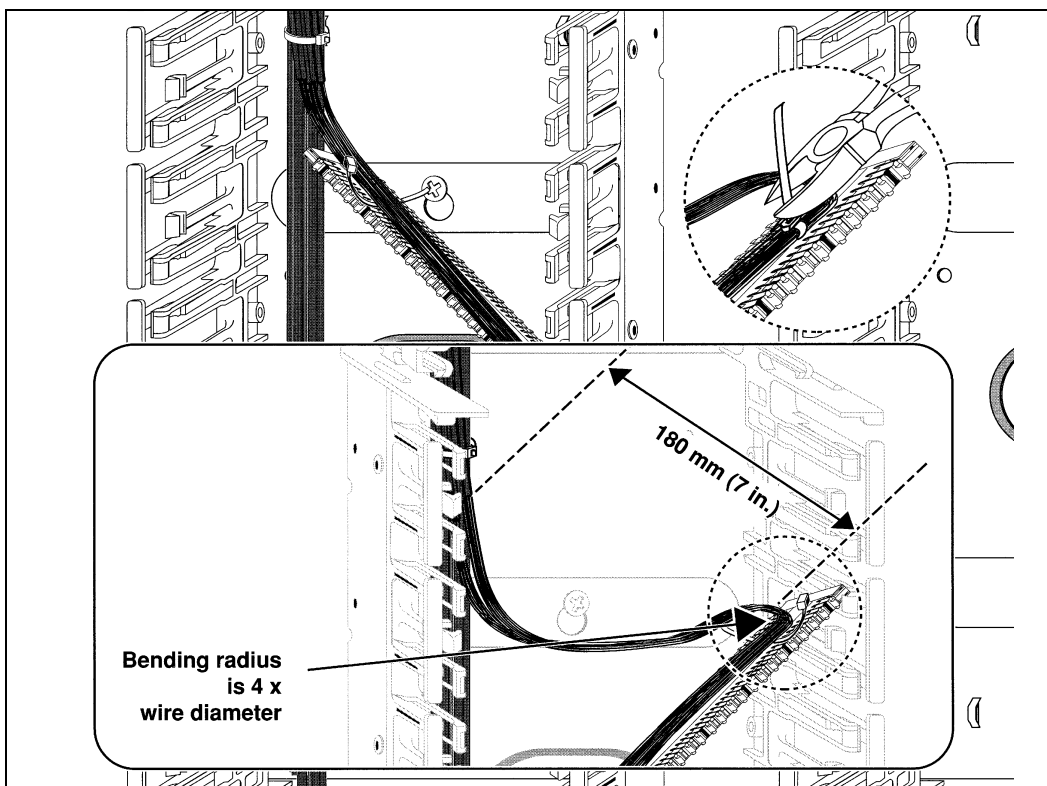
Figure 14 How to remove the BIX connectors

Connecting to the Upper Connector

Follow these steps to connect the upper connector.

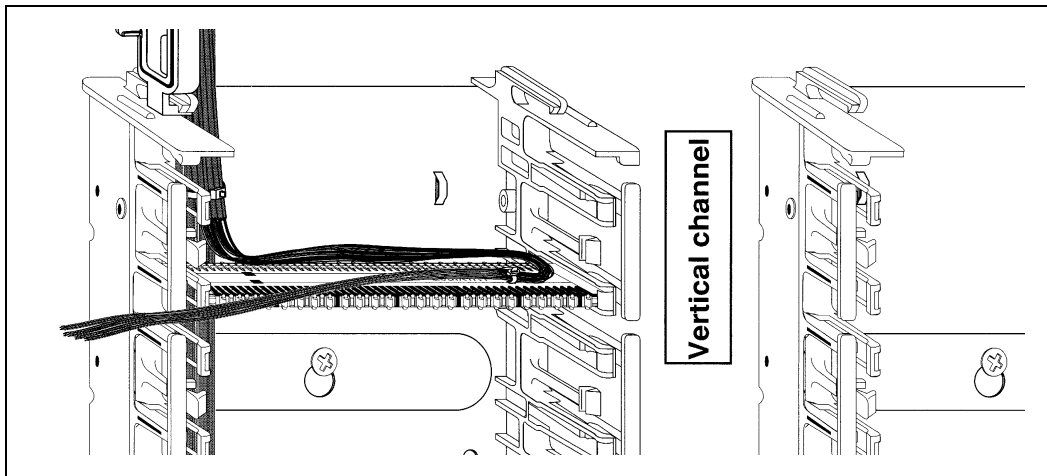
- 1 Fasten the cable to the upper connector. Refer to [Figure 15](#).

Ensure the bending radius is maintained.

Figure 15 Fasten the cable to the upper connector

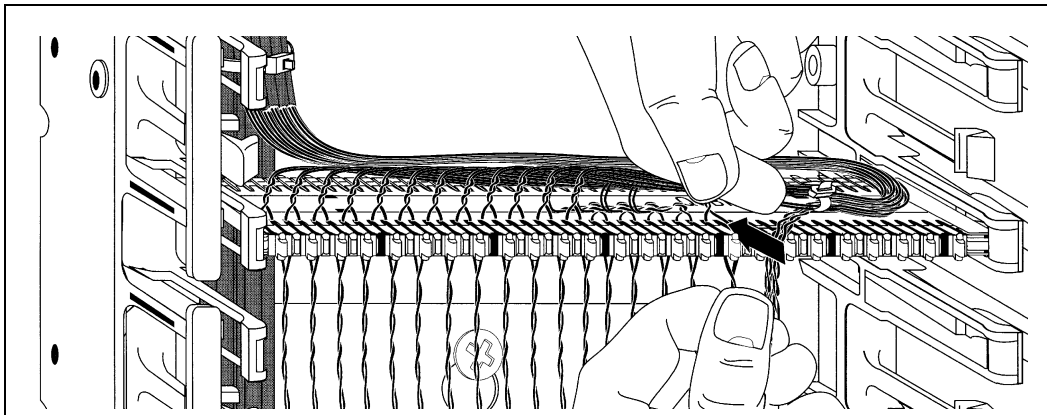
- 2 Insert the BIX connector into the lower connector position. Refer to [Figure 16](#).

Figure 16 Insert the BIX connector in the lower connector position



- 3 Insert the wire pairs on the connector. Refer to [Figure 17](#).
[Table 1 on page 17](#) provides a summary of the wiring pattern for BIX connectors

Figure 17 Insert the wire pairs on the connector



TIP:

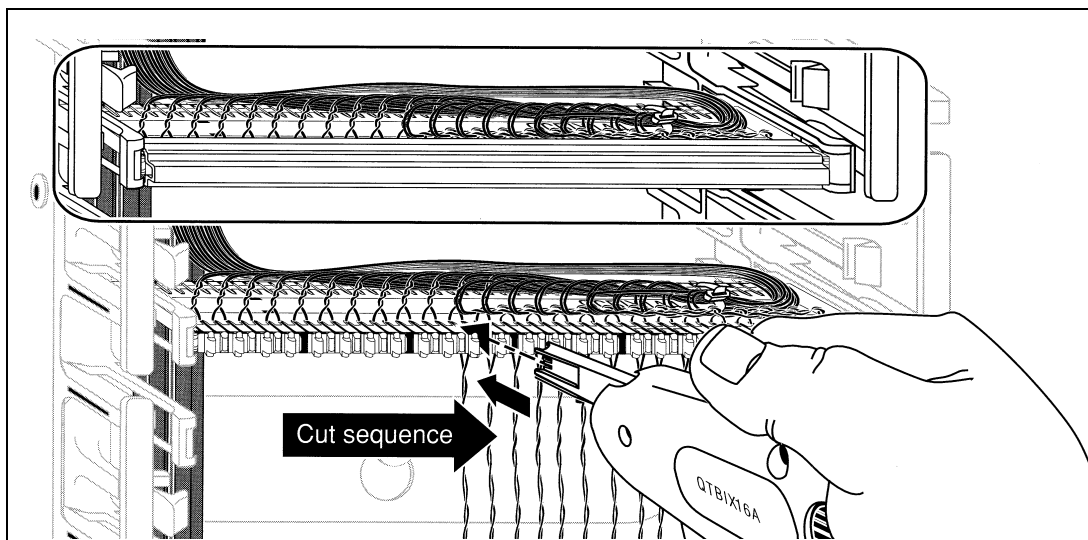
Insert the white/blue, blue/white wire pair into the first position on the left end of the connector. Insert the violet/slate, slate/violet wire pair into the last position on the right end of the connector.

Table 1 Color code for 25 pair cable

Pair	TIP (Body/Band)	RING (Body/Band)
1	White/Blue	Blue/White
2	White/Orange	Orange/White
3	White/Green	Green/White
4	White/Brown	Brown/White
5	White/Slate	Slate/White
6	Red/Blue	Blue/Red
7	Red/Orange	Orange/Red
8	Red/Green	Green/Red
9	Red/Brown	Brown/Red
10	Red/Slate	Slate/Red
11	Black/Blue	Blue/Black
12	Black/Orange	Orange/Black
13	Black/Green	Green/Black

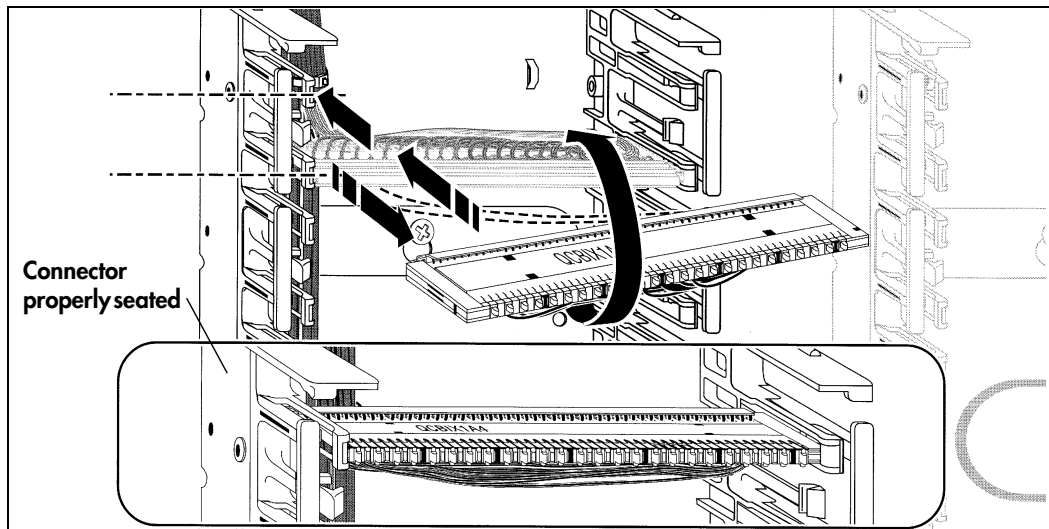
Pair	TIP (Body/Band)	RING (Body/Band)
14	Black/Brown	Brown/Black
15	Black/Slate	Slate/Black
16	Yellow/Blue	Blue/Yellow
17	Yellow/Orange	Orange/Yellow
18	Yellow/Green	Green/Yellow
19	Yellow/Brown	Brown/Yellow
20	Yellow/Slate	Slate/Yellow
21	Violet/Blue	Blue/Violet
22	Violet/Orange	Orange/Violet
23	Violet/Green	Green/Violet
24	Violet/Brown	Brown/Violet
25	Violet/Slate	Slate/Violet

4 Use the BIX tool to terminate the cable and cut off the ends of the wires. Refer to [Figure 18](#).

Figure 18 Terminate the cable and cut off the ends of the wires

- 5 Insert the connector into the upper connector position. Refer to [Figure 19](#).

Figure 19 Insert the connector into the upper connector position



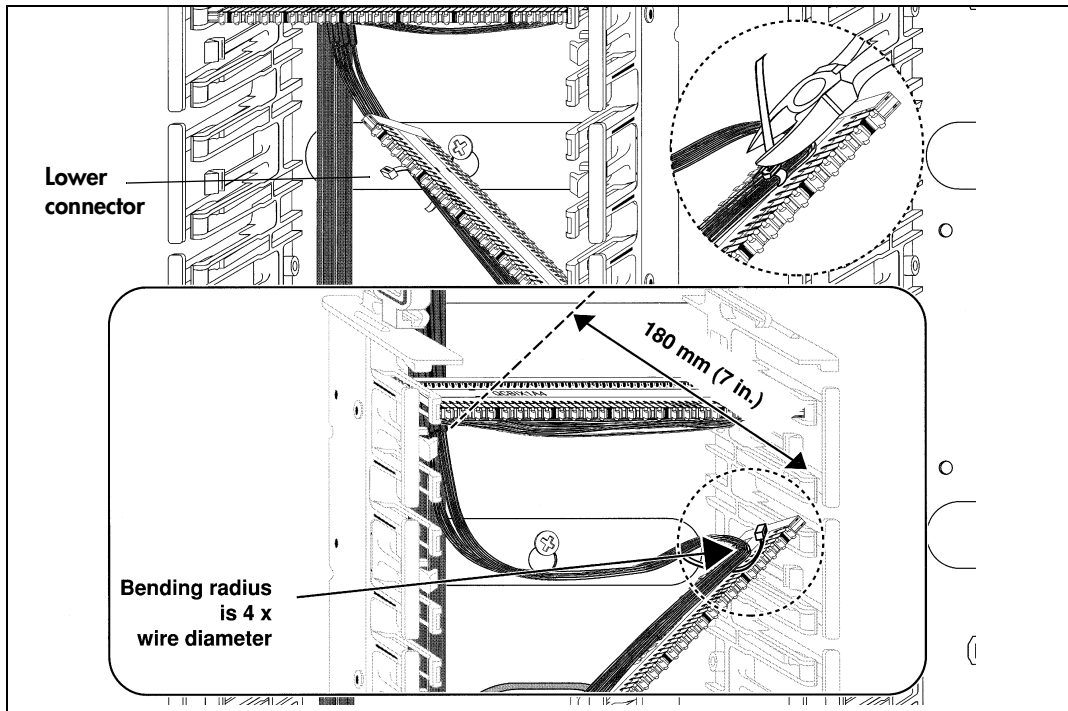
TIP:
➔ Insert the white/blue, blue/white wire pair into the first position on the left end of the connector.

Connecting to the Lower Connector

Follow these steps to install the lower connector.

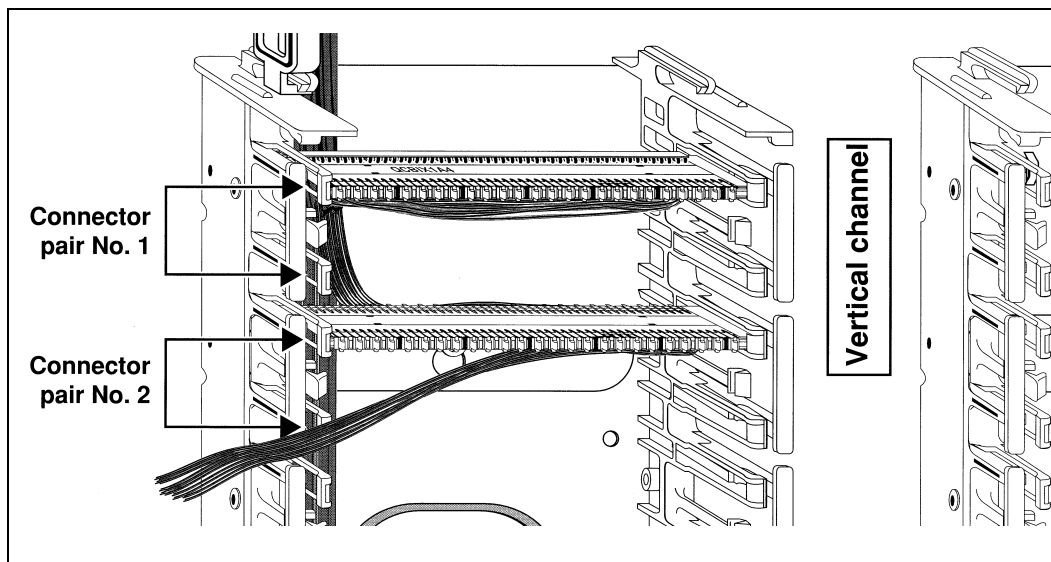
- 1 Fasten the lower connector cable wire. Refer to [Figure 20](#).

Figure 20 Fasten the lower connector cable wire



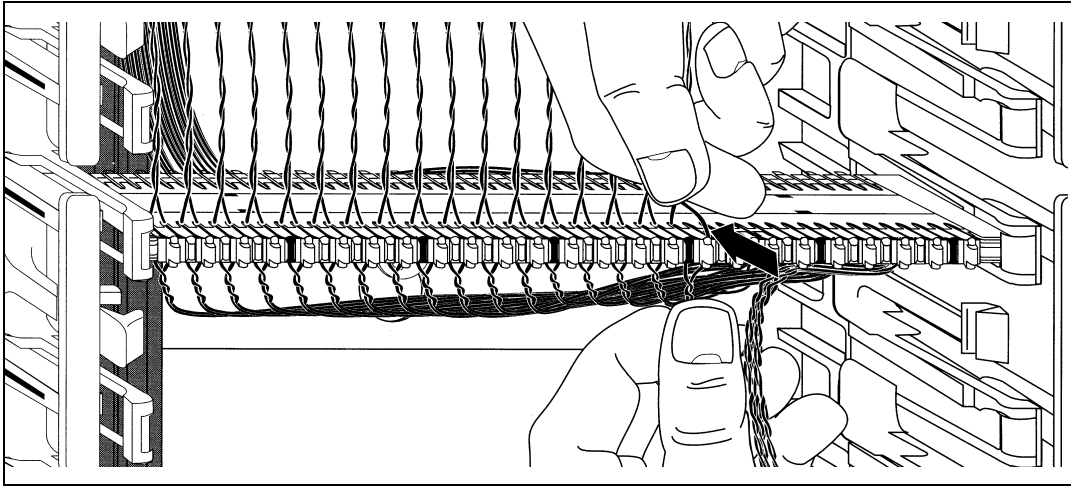
- 2 Connect the upper connector pair in the No. 2 position, as shown in [Figure 21](#).

Figure 21 Connecting to the upper connector pair in the No. 2 position



- 3 Insert the wire pairs on the connector, as shown in [Figure 22](#).

Figure 22 Insert the wire pairs on the connector

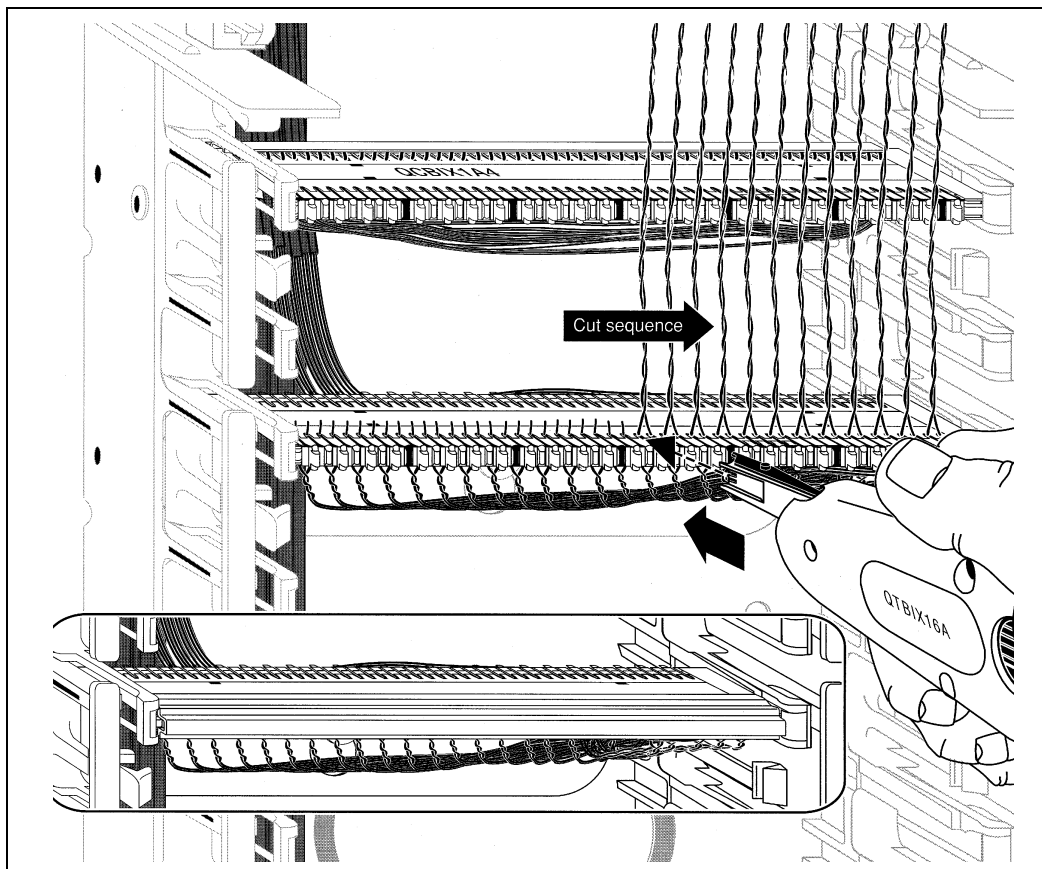


TIP:

Insert the white/blue, blue/white wire pair into the first position on the left end of the connector. Insert the violet/slate, slate/violet wire pair into the last position on the right end of the connector.

- 4 Terminate the cable and cut off the ends of the wires, as shown in [Figure 23](#).

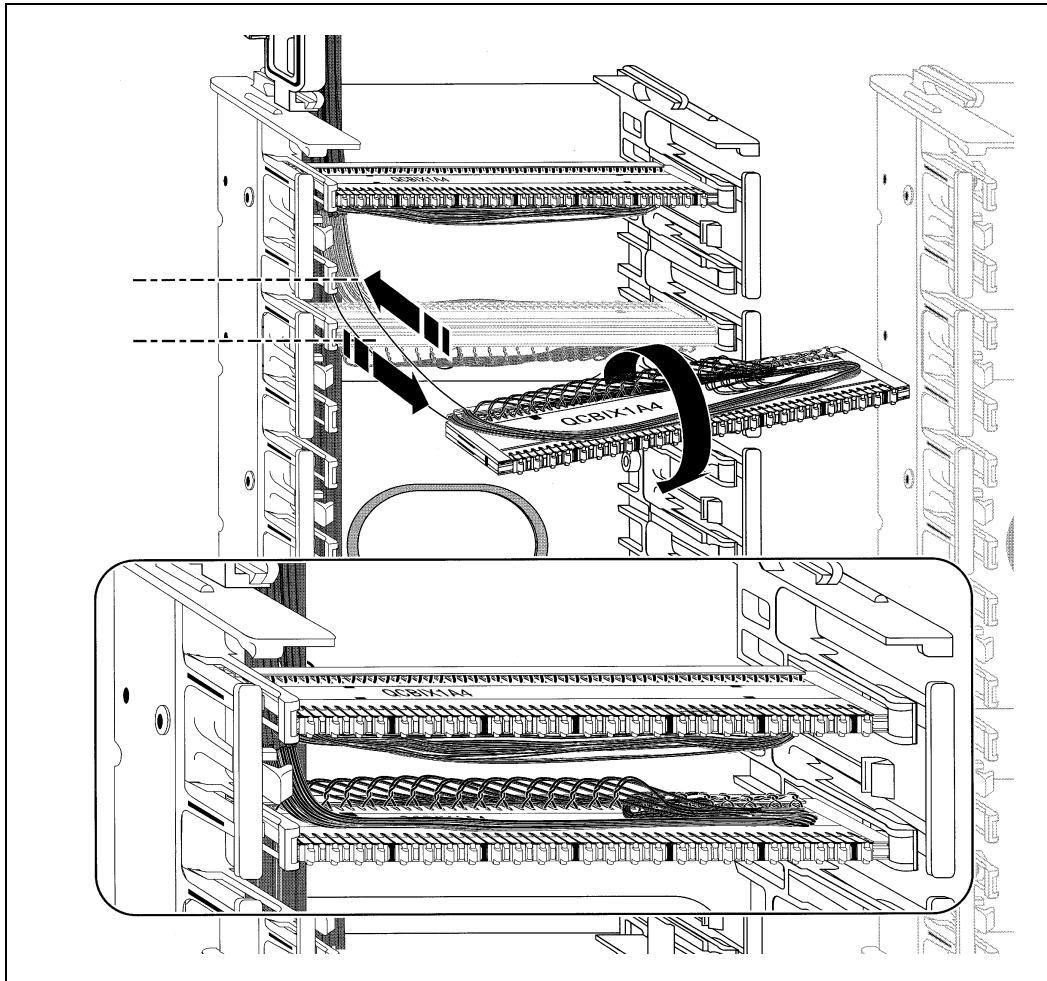
Figure 23 Terminate the cable and cut off the ends of the wires



Note: Using the wire retainer shown at the bottom of the figure is optional.

- 5 Insert the connector in the lower connector position, as shown in [Figure 24](#).

Figure 24 Insert the connector into the lower connector position

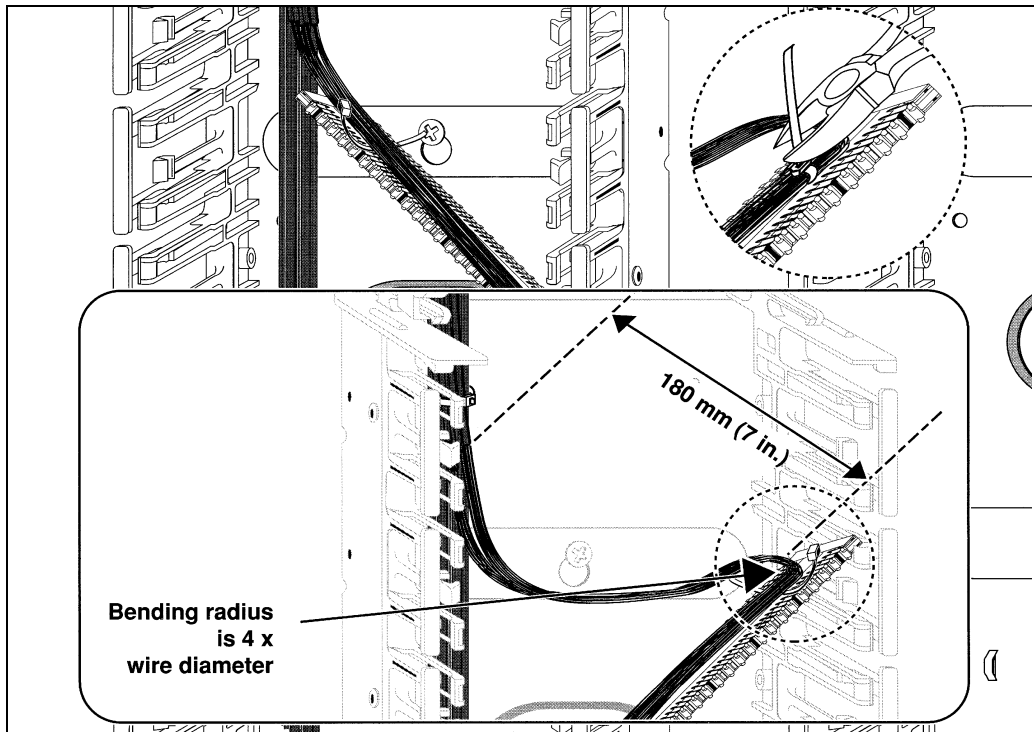


TIP:

Insert the white/blue, blue/white wire pair into the first position on the left end of the connector.

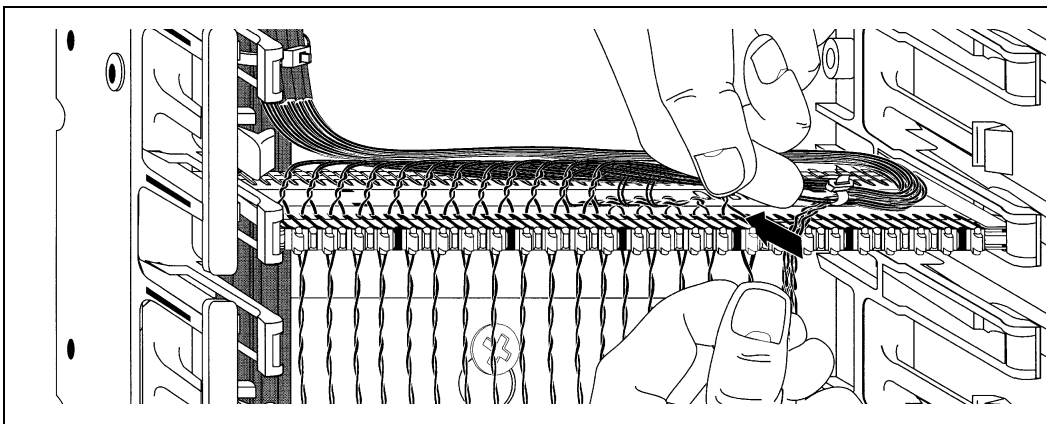
- 6 Fasten the upper connector cable wire, as shown in [Figure 25](#).

Figure 25 Fasten the upper connector cable wire



- 7 Insert the wire pairs on the connector, as shown in [Figure 26](#).

Figure 26 Insert the wire pairs on the connector



See [Table 1 on page 17](#) for a summary of the wiring pattern for BIX connectors



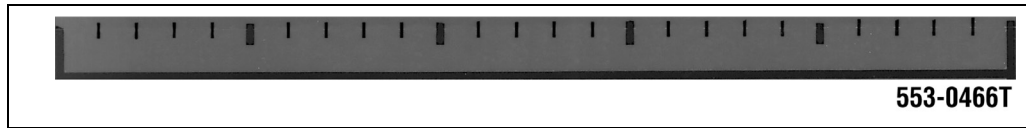
TIP:

Insert the white/blue, blue/white wire pair into the first position on the left end of the connector. Insert the violet/slate, slate/violet wire pair into the last position on the right end of the connector.

Using the BIX Label Strips

Use the blank label strips to label wiring on BIX connectors. Refer to [Figure 27](#).

Figure 27 BIX label strips



Before you install the blank label strips, refer to your work order/installation plan for the correct position of blank labels.

Nortel Networks recommends the following color-coding guidelines:

- Use blue for telephone connections
- Use blue or green for riser cable
- Use green for incoming trunk connections
- Use silver for multiplying connectors
- Use yellow for other connections

[Figure 28](#) shows the correct way to install the designation strips. [Figure 29](#) shows the correct way to remove the strips.

Figure 28 How to install the designation strips on the BIX mount

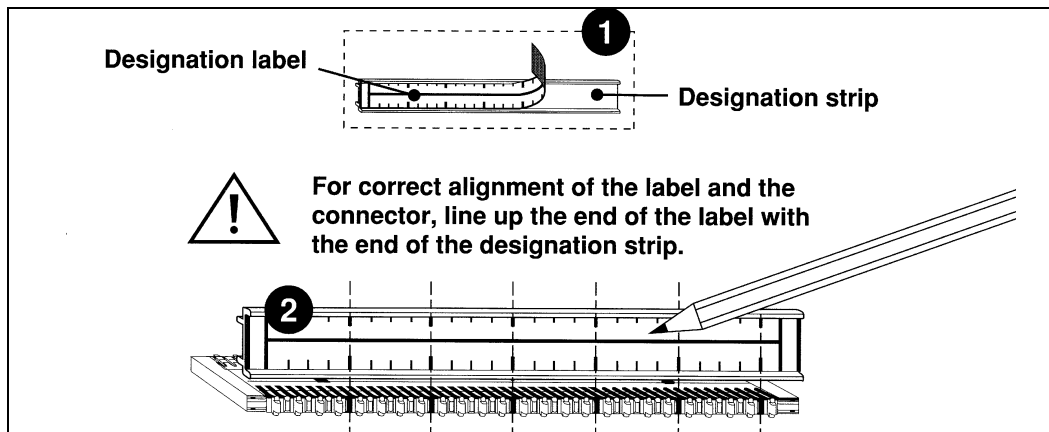


Figure 29 How to remove the designation strips from the BIX mount

