Nortel Multiservice Switch 7400

FP Cabling Reference

NN10600-172

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Contents

What's new

The following features were added to this document:

- MSA8 FP on Multiservice Switch 7400 (page 5)
- Optical 2pSTM-1 Ch Multiservice FP on Multiservice Switch 7400 (page 5)

Attention: To ensure that you are using the most current version of an NTP, check the current NTP list in NN10600-000 *Nortel Multiservice Switch 7400/ 15000/20000 What's New*.

MSA8 FP on Multiservice Switch 7400

The following section was added for this feature:

- DS1 or E1 MSA8 FP cable connections (page 71)

Optical 2pSTM-1 Ch Multiservice FP on Multiservice Switch 7400

The following section was added for this feature:

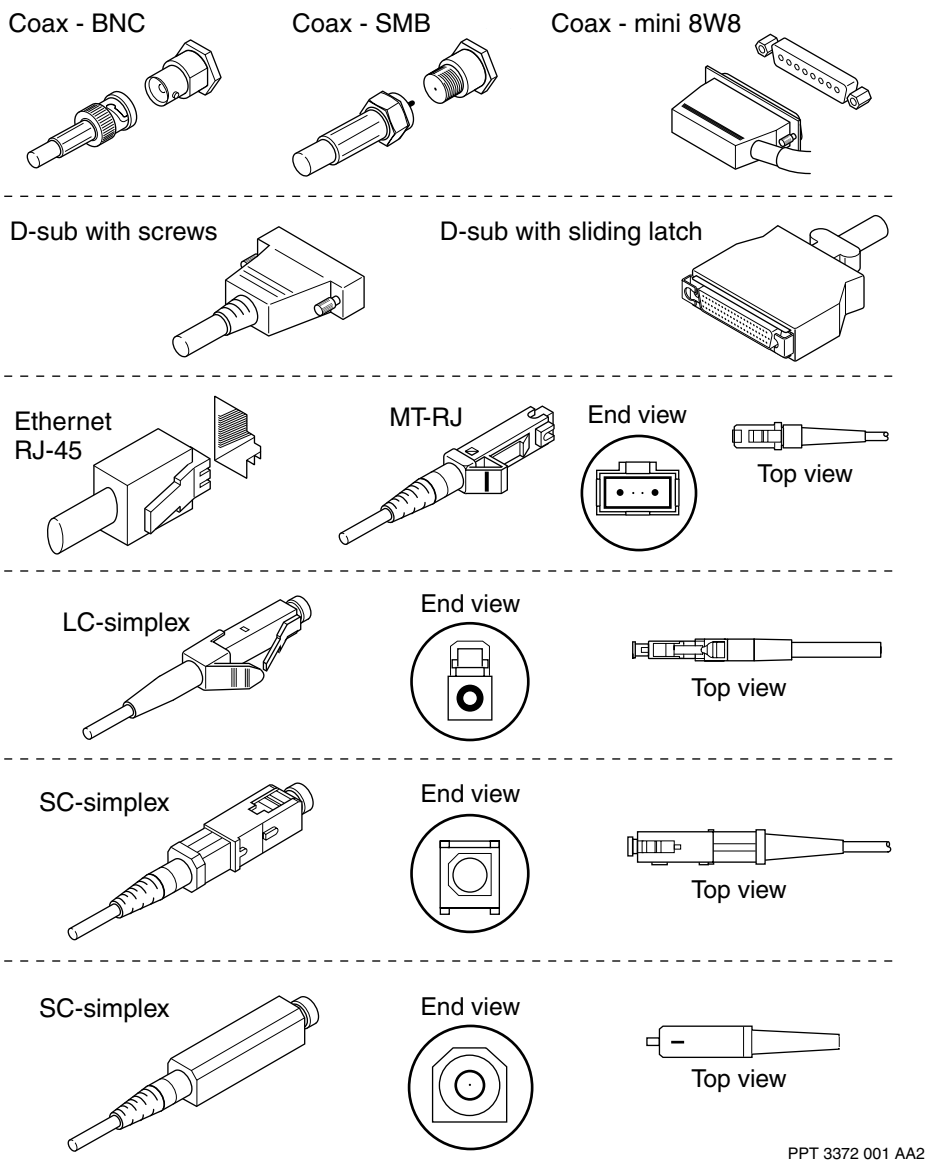
- 2-port STM-1 optical FP cable connections (page 11)

Function processor cable connections

The following sections specify cable connections between processor cards, their corresponding termination panels, and customer equipment. The sections are listed alphabetically.

See the figure Types of cable connectors used by custom-made or prefabricated cable assemblies (page 8) for the different types of cable connectors used by Nortel Multiservice Switch equipment.

Types of cable connectors used by custom-made or prefabricated cable assemblies



2-port STM-1 electrical FP cable connections

The information in this section applies to both the 2-port STM-1 electrical ATM IP FP (PEC NTNQ90AA) and the 2-port STM-1 electrical channelized CES/ATM/IMA FP (PEC NTNQ91). The control cable of the FP provides power and the switchover capability when connected to the 2-port STM-1 electrical 1:1 sparing panel (NTPS92AA). When far-end equipment other than the sparing panel is used, the control port cable is not used.

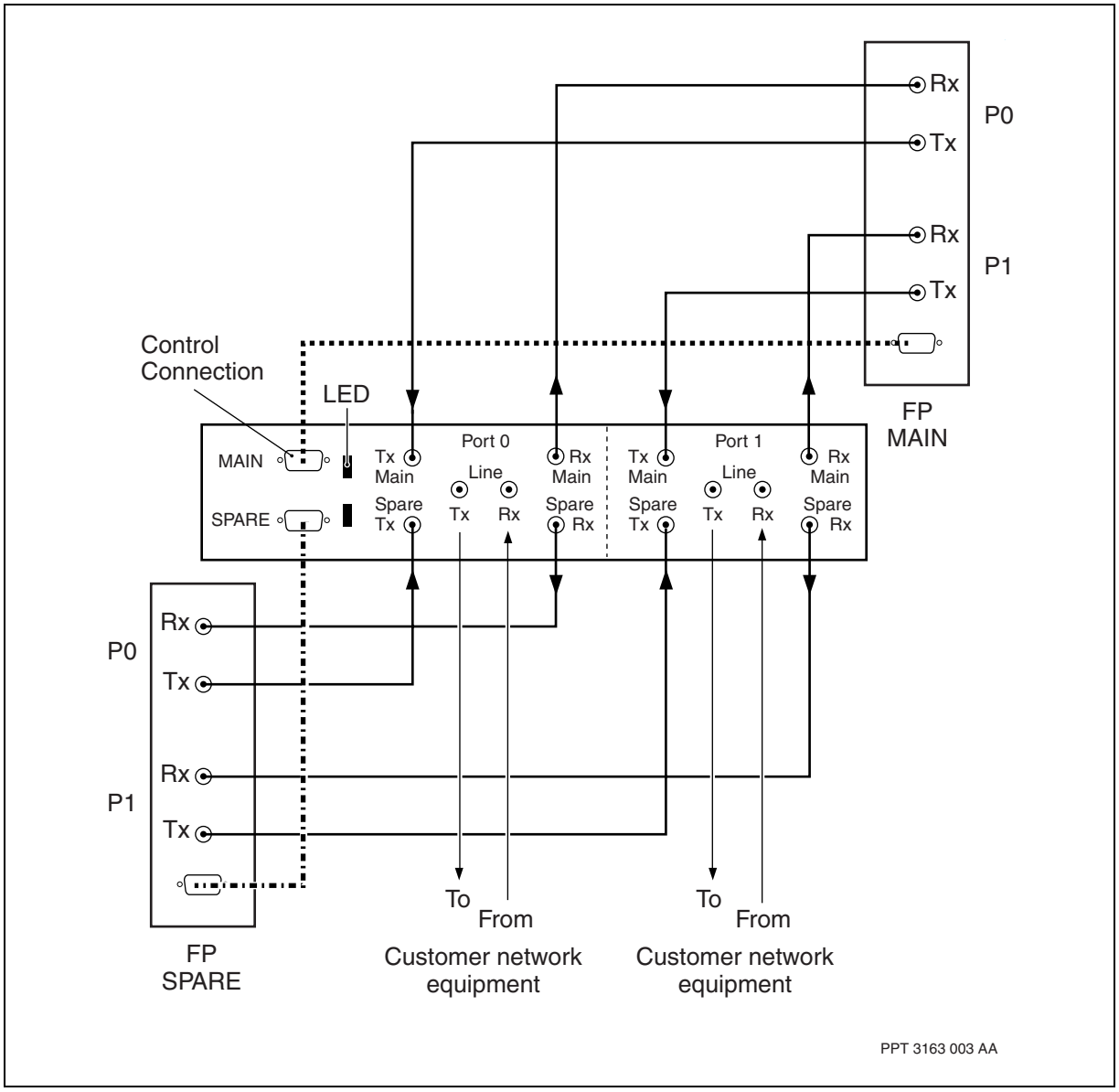
The figure Connections between a 2-port STM-1e ATM IP FP and a 2-port STM-1e 1:1 sparing panel (NTPS92AA) (page 10) shows where to connect the SMB BT43 (SMZ) cable connectors.

CAUTION

Risk of equipment damage

To avoid damaging the center pin of the connector in the faceplate of the NTNQ90AA card (2pSTM1eAtm FP) or NTNQ91AA card (2pSTM1eCh FP), attention should be paid while establishing a connection. The female (cable side) connector must be oriented and inserted carefully to prevent risk of damage to the center pin of the (faceplate mounted) male plug.

Connections between a 2-port STM-1e ATM IP FP and a 2-port STM-1e 1:1 sparing panel (NTPS92AA)



2-port STM-1 optical FP cable connections

The NTPS96 cross-connect cable links two NTNQ96 2-port STM-1 optical channelized CES/ATM/IMA (2pSTM1Ch) FPs to provide 1+1 line and equipment protection on an Multiservice Switch 7400. Note that the *Laps* component has to be provisioned in order to achieve line and equipment protection.

In this application, the NTPS96 sends cross-over traffic between two 2pSTM1Ch FPs on an Multiservice Switch 7400 platform because the Multiservice Switch 7400 backplane does not have the mate interface needed to provide cross-connect signals between cards for line and equipment protection (like that on the Multiservice Switch 15000 backplane).

The NTPS96 can be used only between adjacent 2pSTM1Ch FPs. Once the NTPS96 has been plugged into its socket, line protection is achieved between ports with the same instance numbers of adjacent FPs (for example, port 0 of one 2pSTM1Ch FP protects port 0 of the other 2pSTM1Ch FP).

Refer to the figure Connections for the NTPS96 cross-connect cable (page 12) for the NTPS96 connections.

Connections for the NTPS96 cross-connect cable

Diagram 1

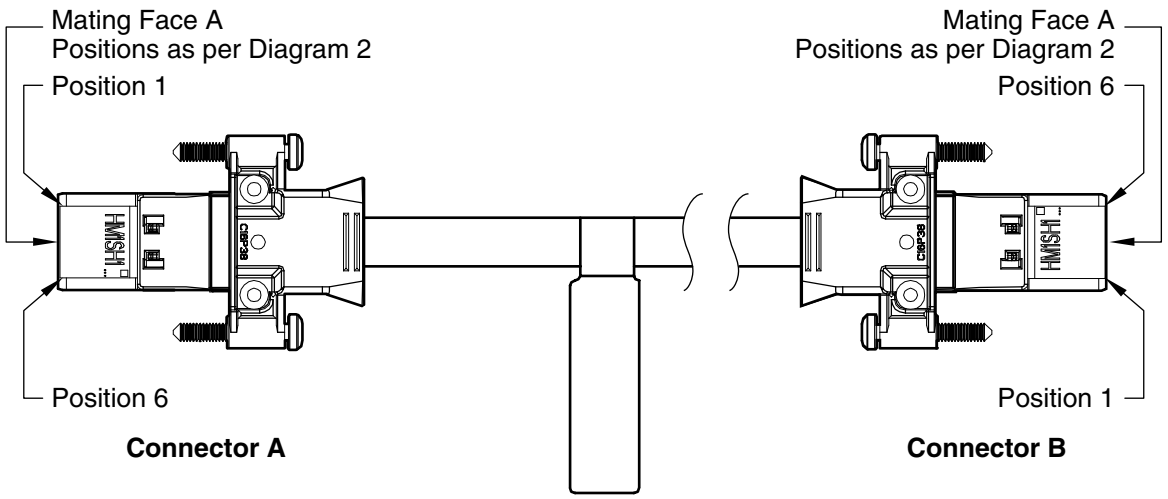
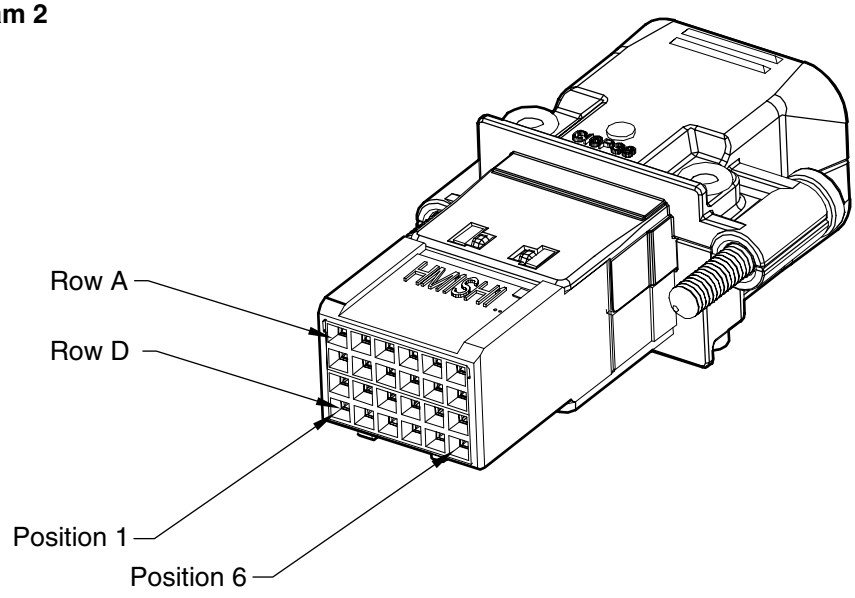


Diagram 2



MSS 4003 002 AA

3-port DS1 ATM FP cable connections

CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether or not they are provisioned. Failure to do so will result in the termination panel dropping all ports on the spare FP.

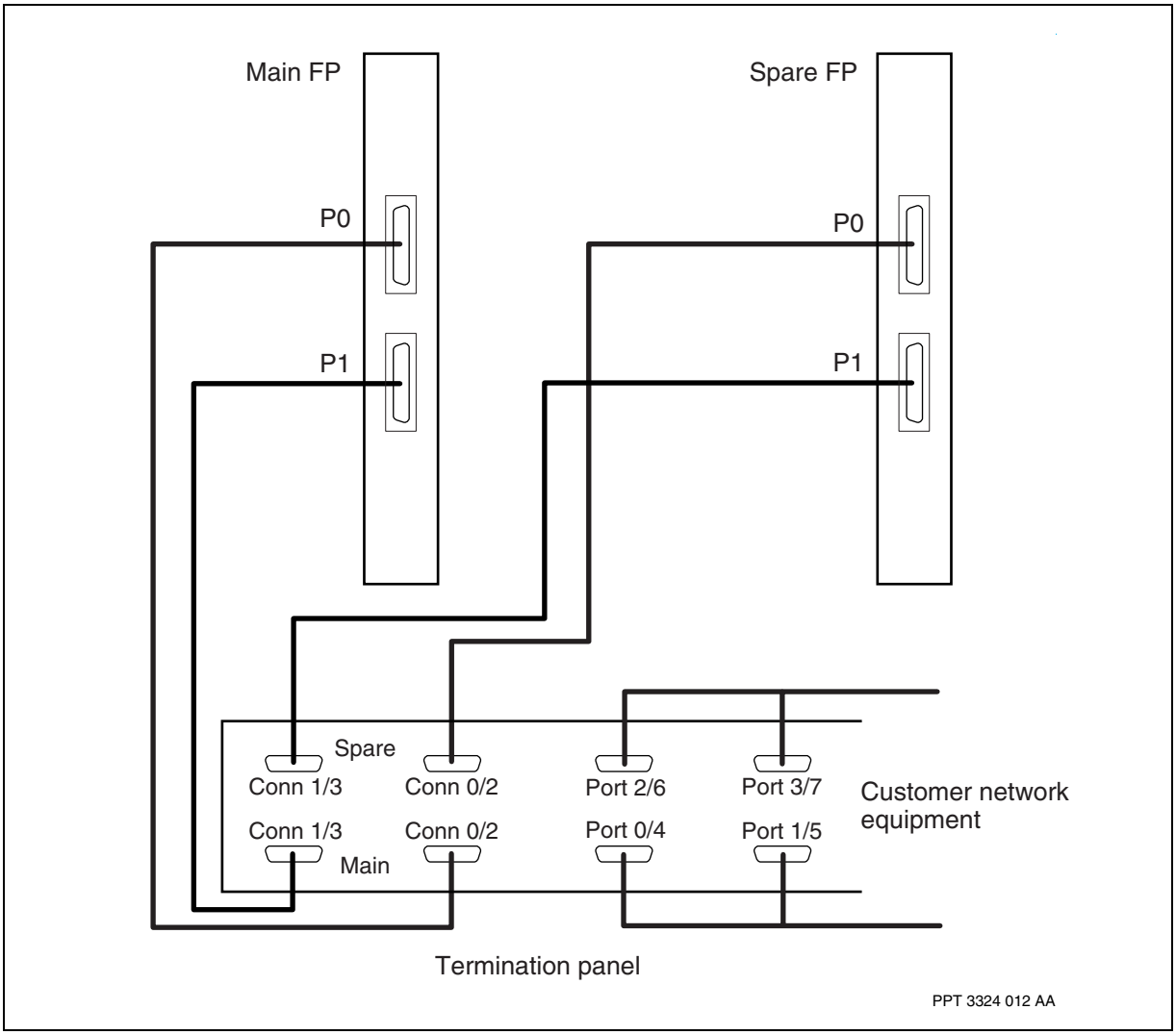
Mapping between a 3-port DS1 ATM FP and termination panel connectors

This table summarizes the mapping between the connectors for the DS1 ATM FP and its termination panel.

Mapping between a 3-port DS1 FP and termination panel connectors

Faceplate connector	Termination panel port number
0	0 and 1
1	2 and 3

Cable connections for a 3-port DS1 ATM FP to a termination panel and customer equipment



3-port E1 ATM FP cable connections

CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

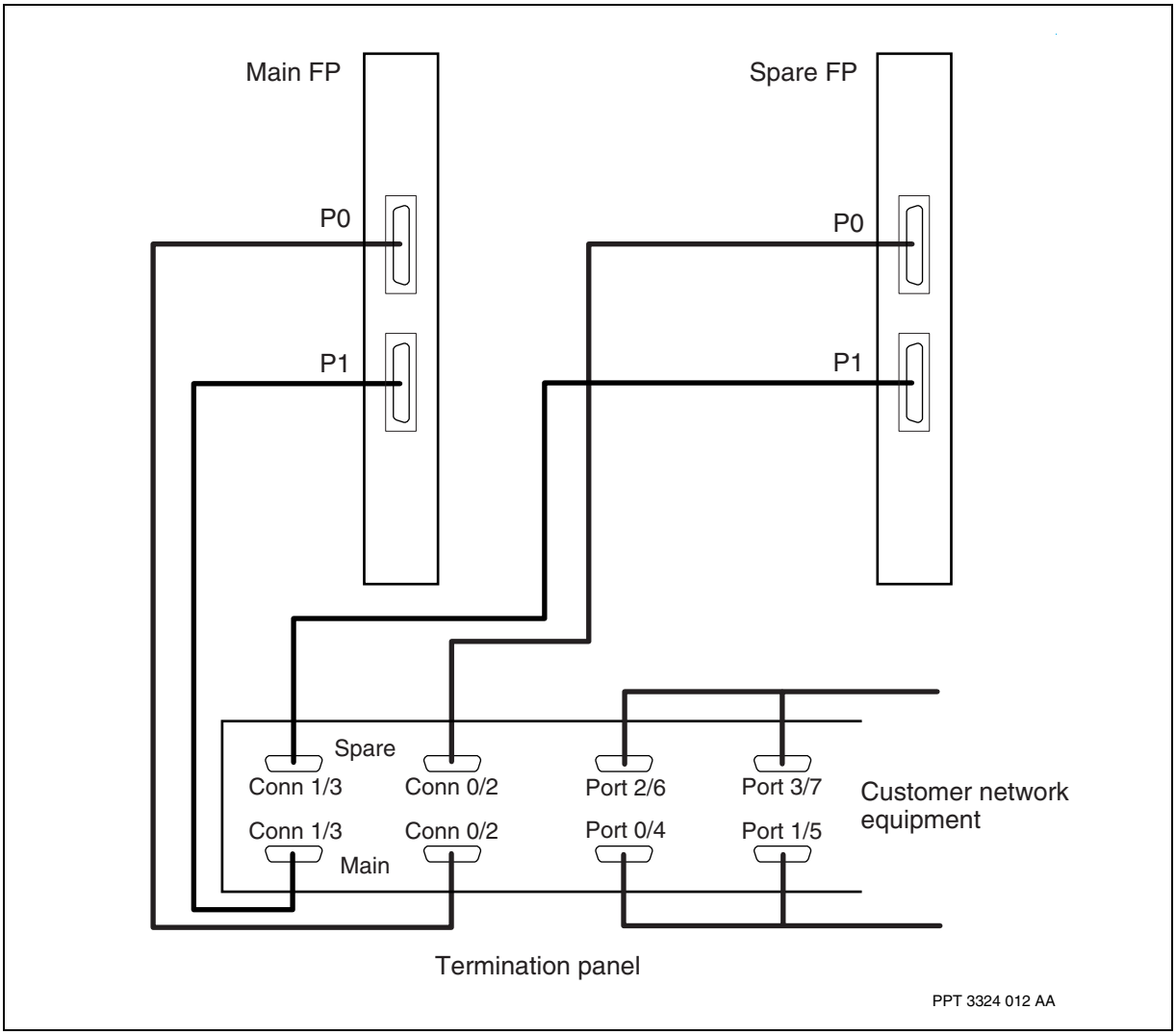
Mapping between a 3-port E1 ATM FP and termination panel connectors

This table summarizes the mapping between the connectors for the E1 FP and its termination panels.

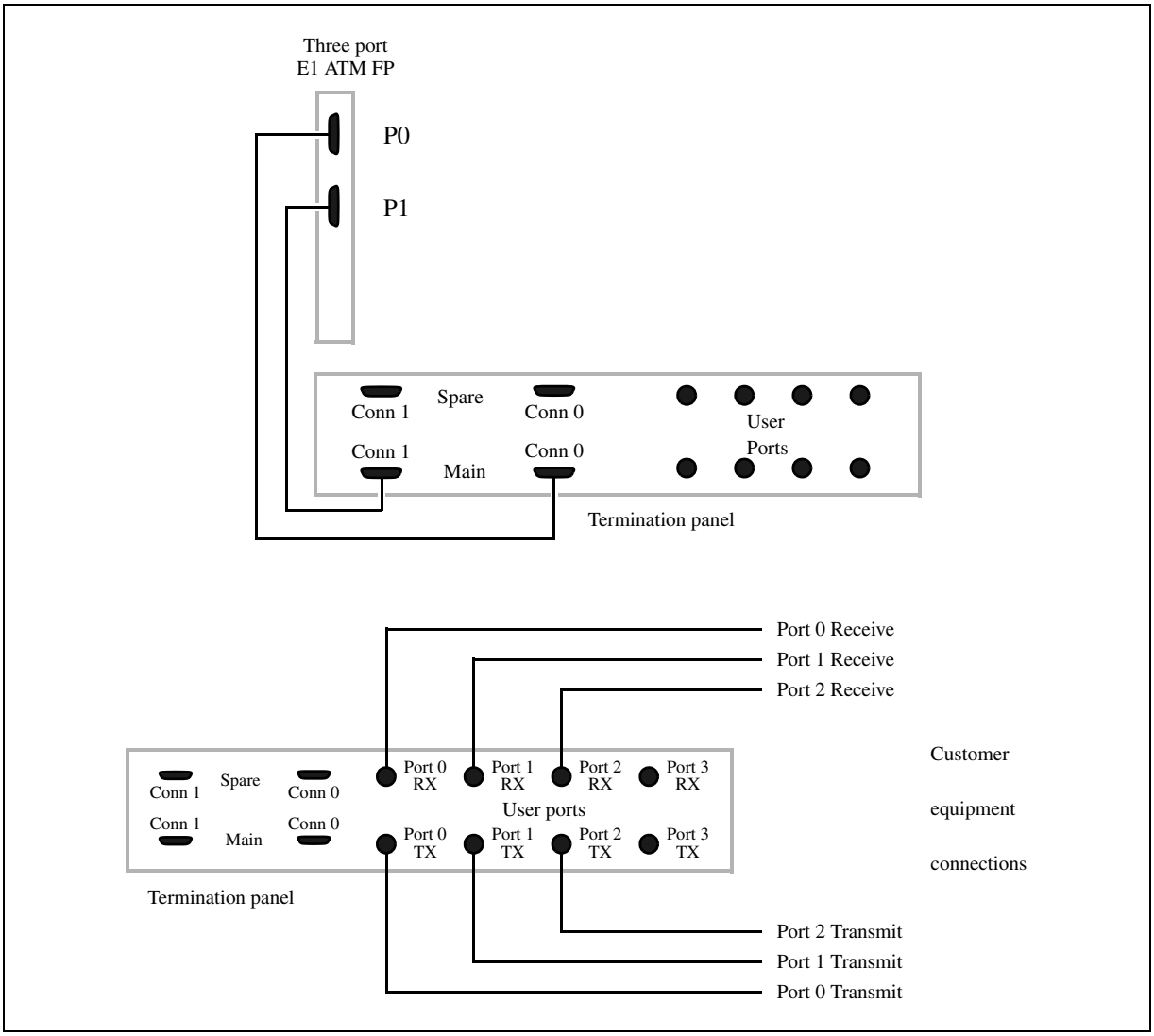
Mapping between a 3-port E1 FP and termination panel connectors

Type of termination panel	Faceplate connector	Termination panel port number
Balanced E1 ATM	0	0 and 1
	1	2 and 3
Unbalanced E1 ATM	0	0 and 1 (TX and RX)
	1	2 and 3 (TX and RX)

Connections for 3-port E1 ATM FP—balanced termination panel



Connections for 3-port E1 ATM FP—unbalanced termination panel



4-port DS1 FP cable connections

CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

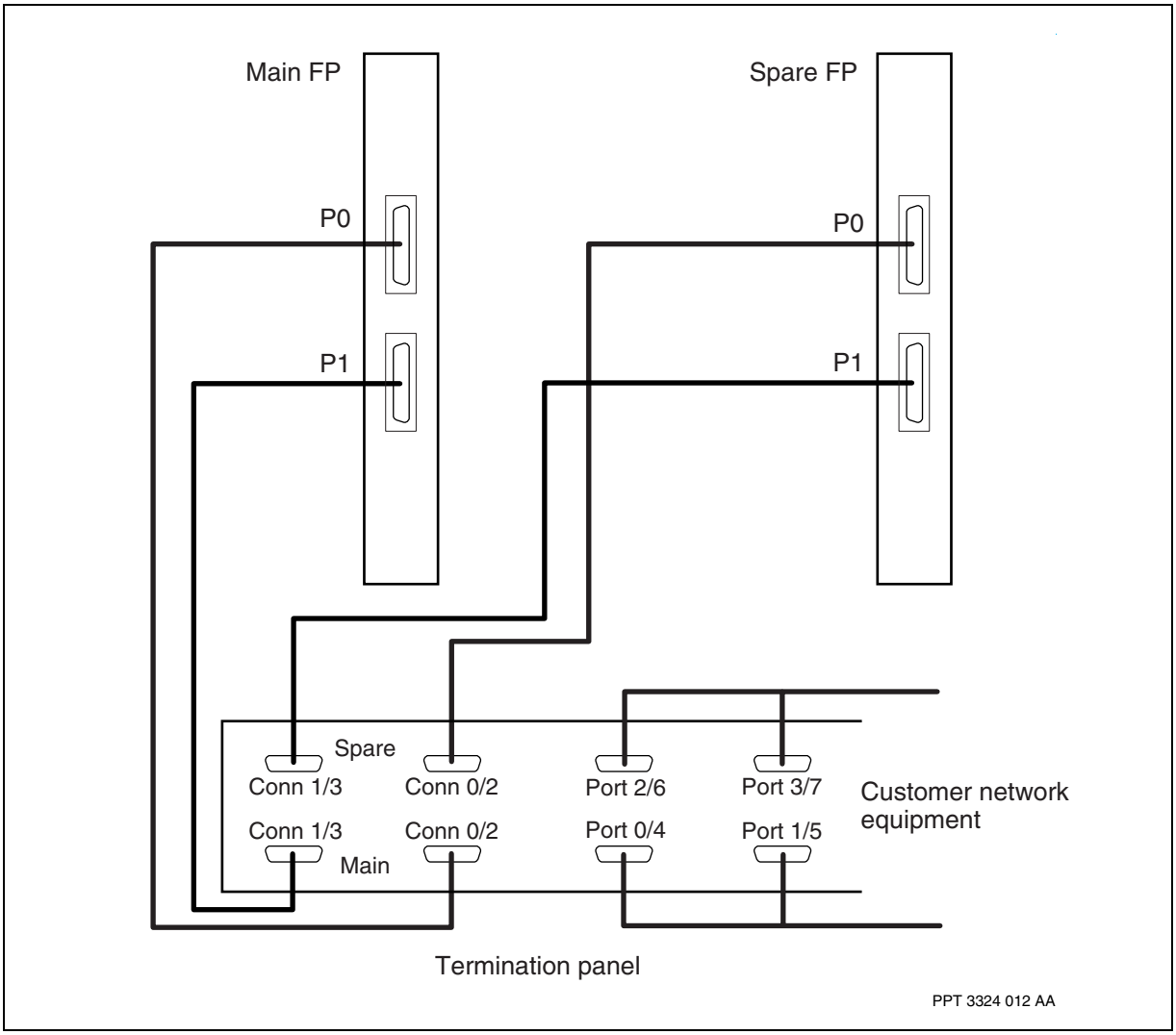
Mapping between a 4-port DS1 and termination panel connectors

This table summarizes the mapping between the connectors for the 4-port DS1 FP and its termination panel.

Mapping between a 4-port DS1 FP and termination panel connectors

Faceplate connector	Termination panel port number
0	0 and 1
1	2 and 3

Cable connections for a 4-port DS1 FP



4-port DS1 MVP-E FP cable connections

CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

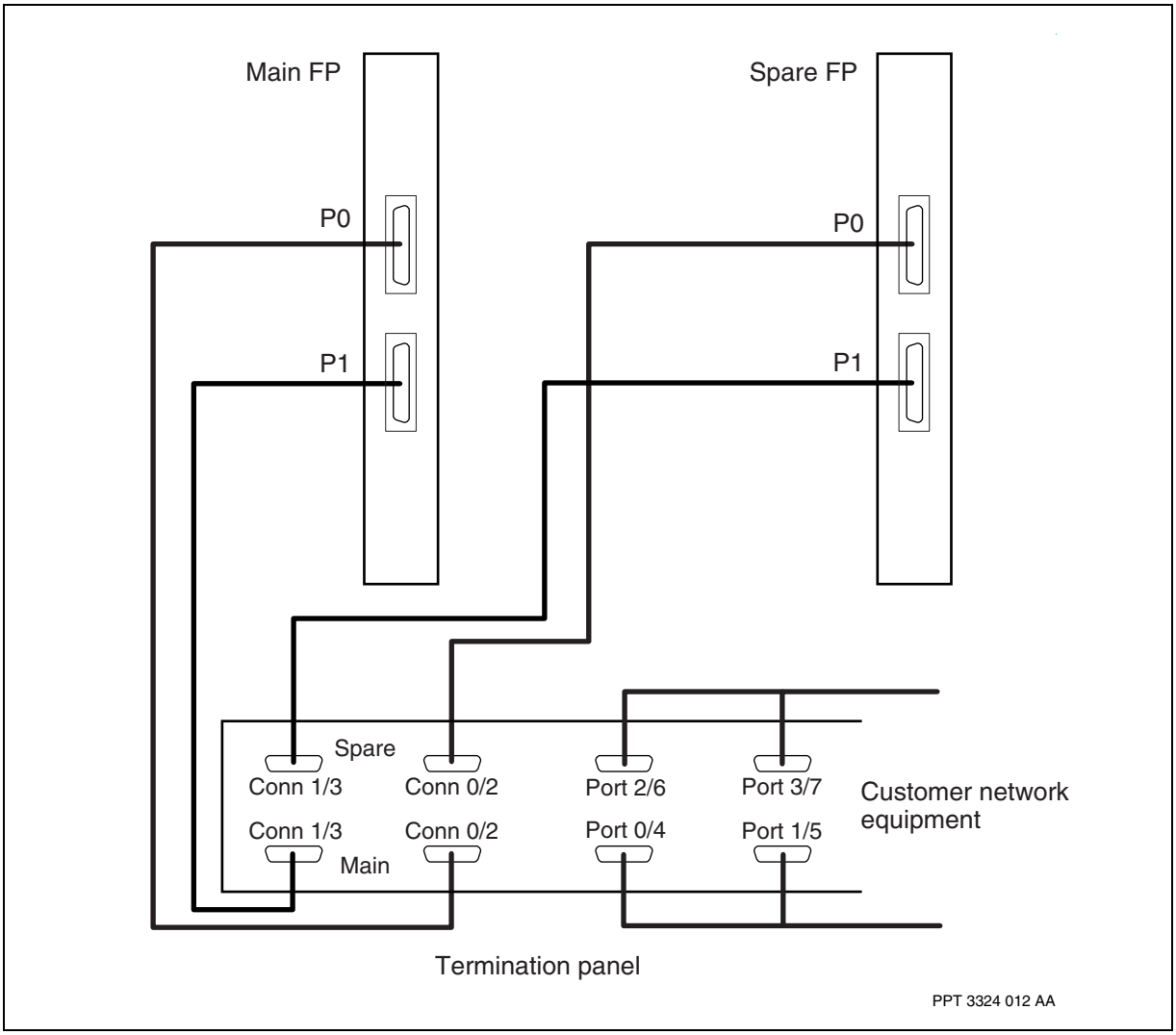
Mapping between a 4-port DS1 MVP-E FP and termination panel connectors

This table summarizes the mapping between the connectors for the 4-port DS1 MVP-E FP and its termination panel.

Mapping between a 4-port DS1 MVP-E FP and termination panel connectors

Faceplate connector	Termination panel port number
0	0 and 1
1	2 and 3

Connections for a 4-port DS1 MVP-E FP



4-port E1 FP cable connections

CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

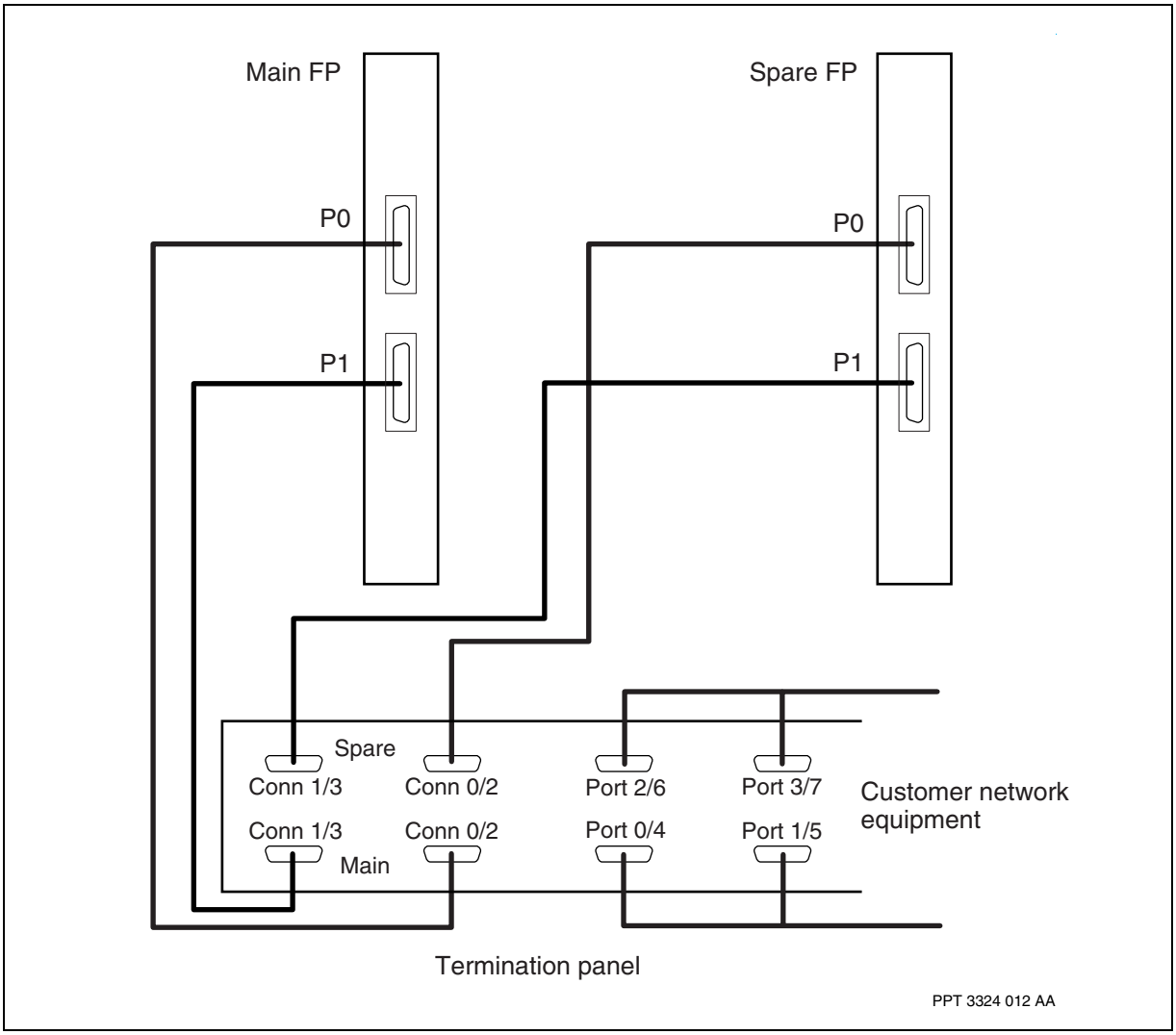
Mapping between a 4-port E1 FP and termination panel connectors

This table summarizes the mapping between the connectors for the 4-port E1 FP and its termination panel.

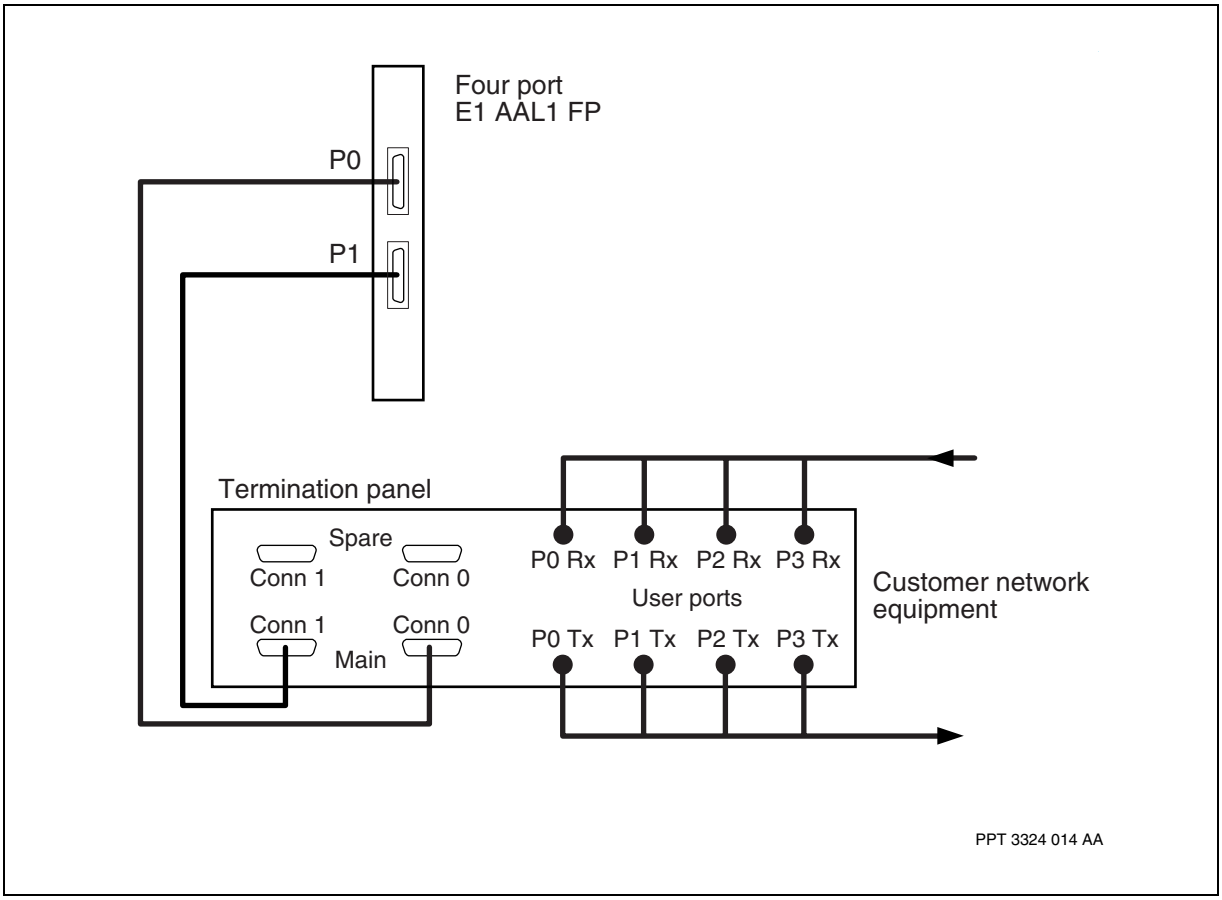
Mapping between a 4-port E1 FP and termination panel connectors

Type of termination panel	Faceplate connector	Termination panel port number
Balanced 4-port E1	0	0 and 1
	1	2 and 3
Unbalanced 4-port E1	0	0 and 1 (TX and RX)
	1	2 and 3 (TX and RX)

Cable connections for 4-port E1 FP with balanced termination panel



Cable connections for 4-port E1 FP with unbalanced termination panel



4-port E1 MVP-E FP cable connections

CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

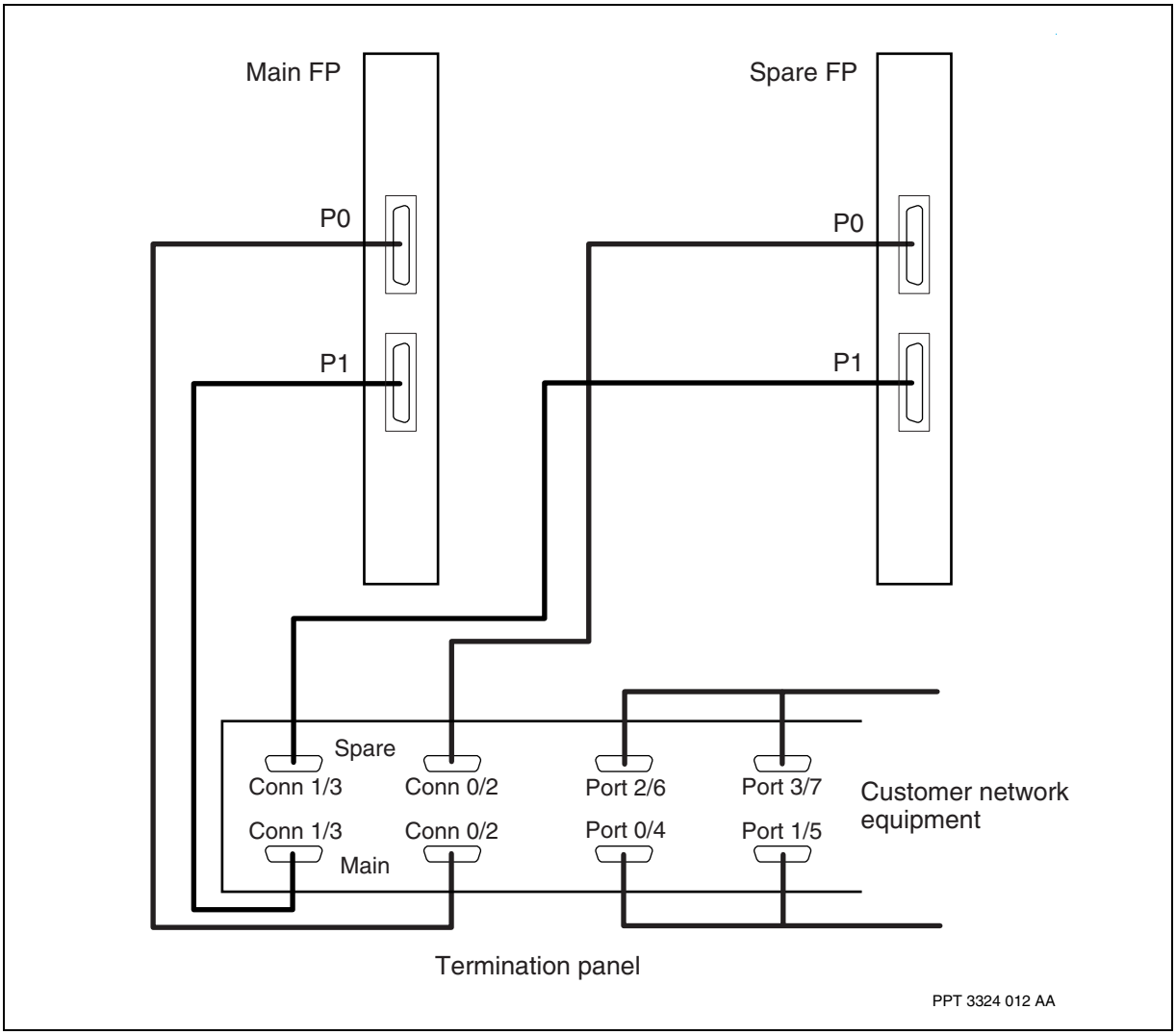
Mapping between a 4-port E1 MVP-E FP and termination panel connectors

This table summarizes the mapping between the connectors for the 4-port E1 MVP-E FP and its termination panel.

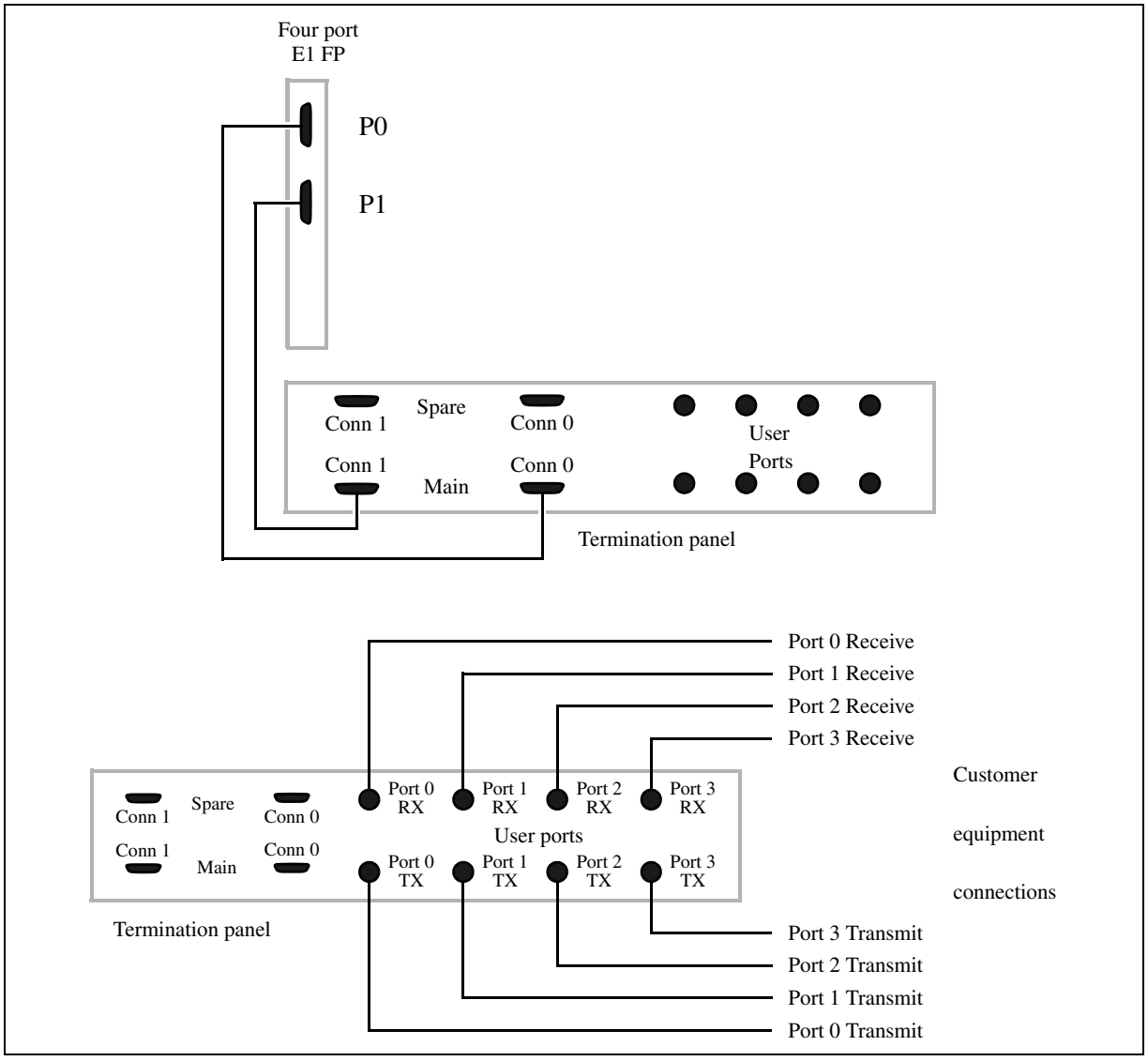
Mapping between a 4-port E1 MVP-E FP and termination panel connectors

Type of termination panel	Faceplate connector	Termination panel port number
Balanced 4-port E1	0	0 and 1
	1	2 and 3
Unbalanced 4-port E1	0	0 and 1 (TX and RX)
	1	2 and 3 (TX and RX)

Connections for a 4-port E1 MVP-E FP—balanced termination panel



Connections for 4-port E1 MVP-E FP—unbalanced termination panel



8-port DS1 ATM FP cable connections

CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

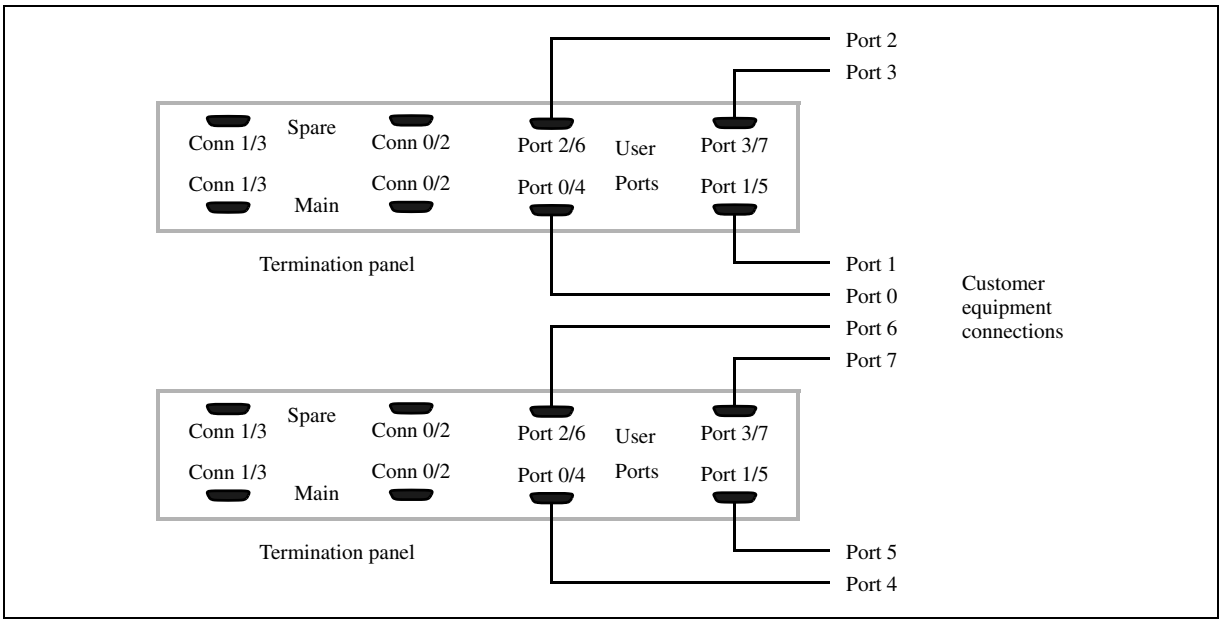
Mapping between an 8-port DS1 ATM FP and termination panel connectors

This table summarizes the mapping between the connectors for the 8-port DS1 ATM FP and its termination panel.

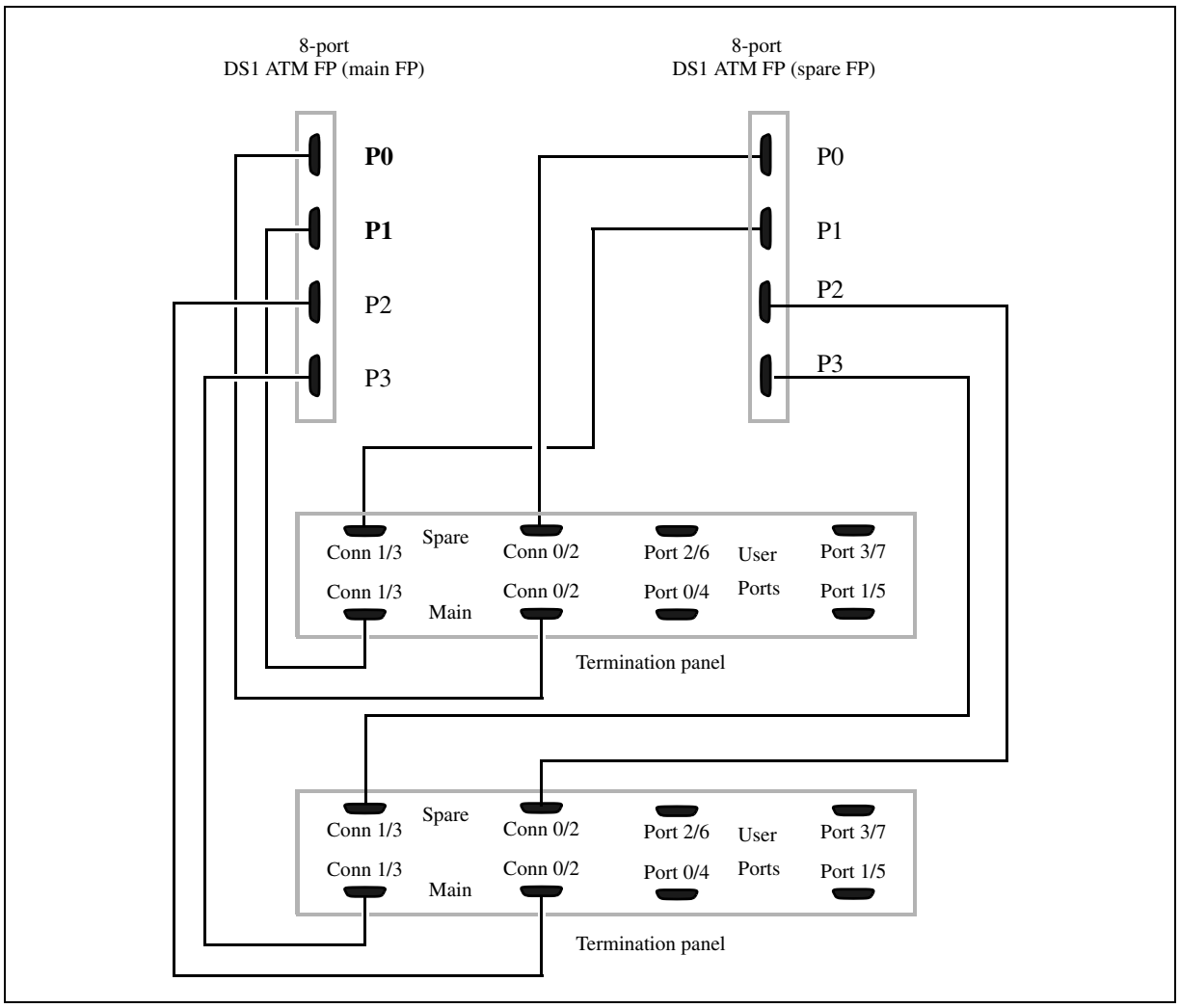
Mapping between an 8-port DS1 ATM FP and termination panel connectors

Faceplate connector	Termination panel port number
0	0 and 1
1	2 and 3
2	4 and 5
3	6 and 7

Customer equipment connections to 8-port DS1 ATM termination panels



Connections for 8-port DS1 ATM FP



8-port DS1 FP cable connections

CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

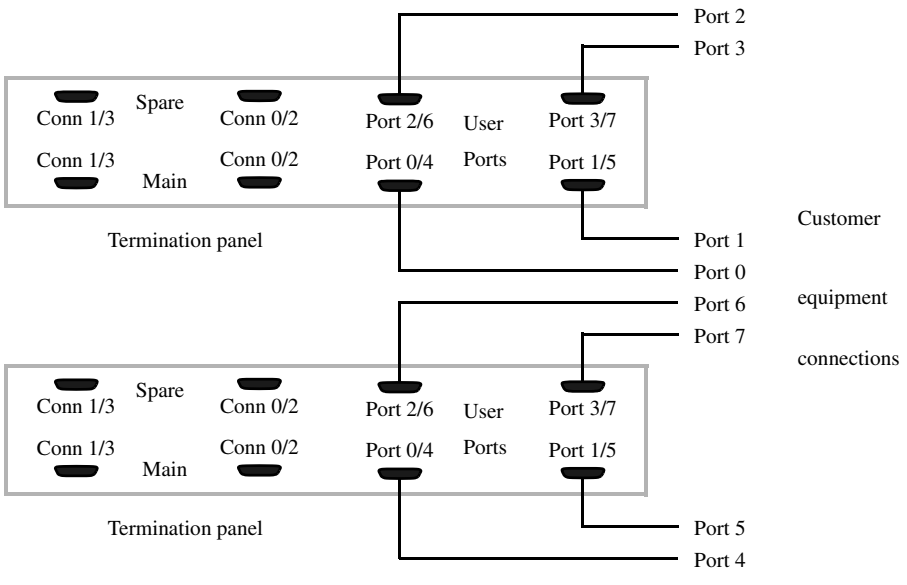
Mapping between an 8-port DS1 FP and termination panel connectors

This table summarizes the mapping between the connectors for the 8-port DS1 FP and its termination panel.

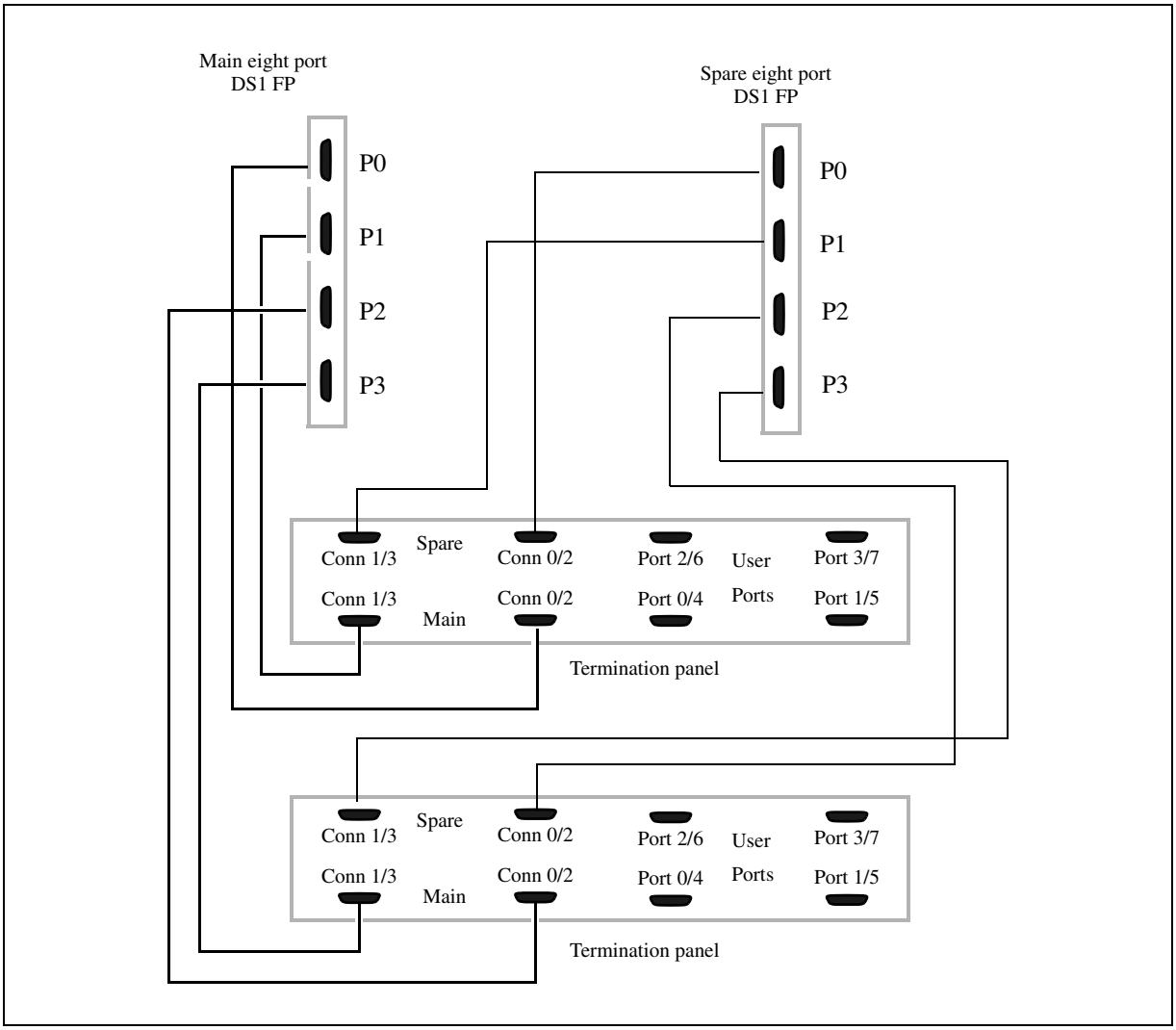
Mapping between a DS1 FP and termination panel connectors

Faceplate connector	Termination panel port number
0	0 and 1
1	2 and 3
2	4 and 5
3	6 and 7

Customer equipment connections to 8-port DS1 termination panels



Connections for 8-port DS1 FP



8-port E1 ATM cable connections

CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

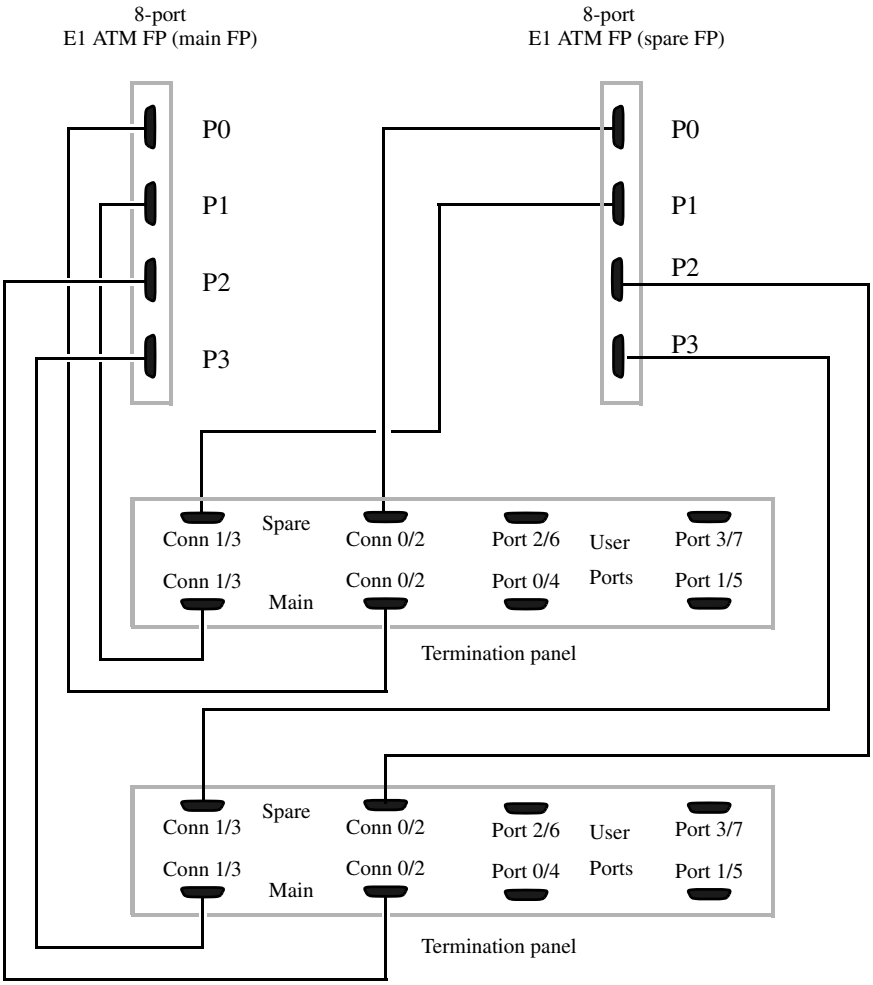
Mapping between an 8-port E1 ATM FP and termination panel connectors

This table summarizes the mapping between the connectors for the 8-port E1 ATM FP and its termination panel.

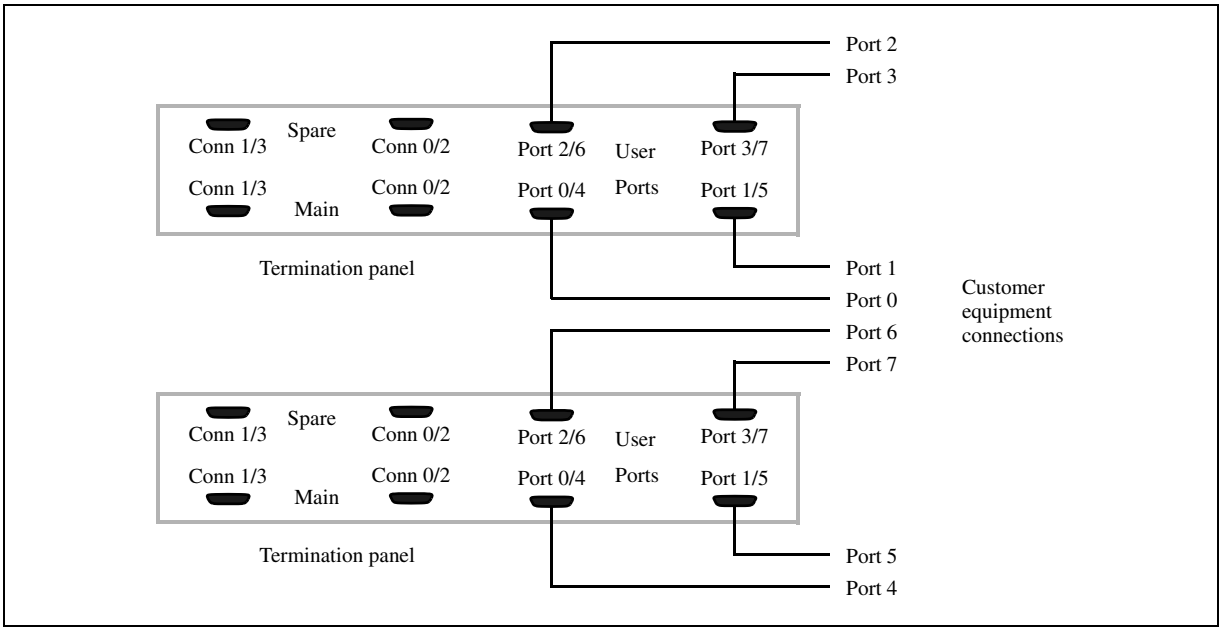
Mapping between an 8-port E1 ATM FP and termination panel connectors

Type of termination panel	Faceplate connector	Termination panel port number
Balanced 8-port E1 ATM	0	0 and 1
	1	2 and 3
	2	4 and 5
	3	6 and 7
Unbalanced 8-port E1 ATM	0	0 and 1 (TX and RX)
	1	2 and 3 (TX and RX)
	0	4 and 5 (TX and RX)
	1	6 and 7 (TX and RX)

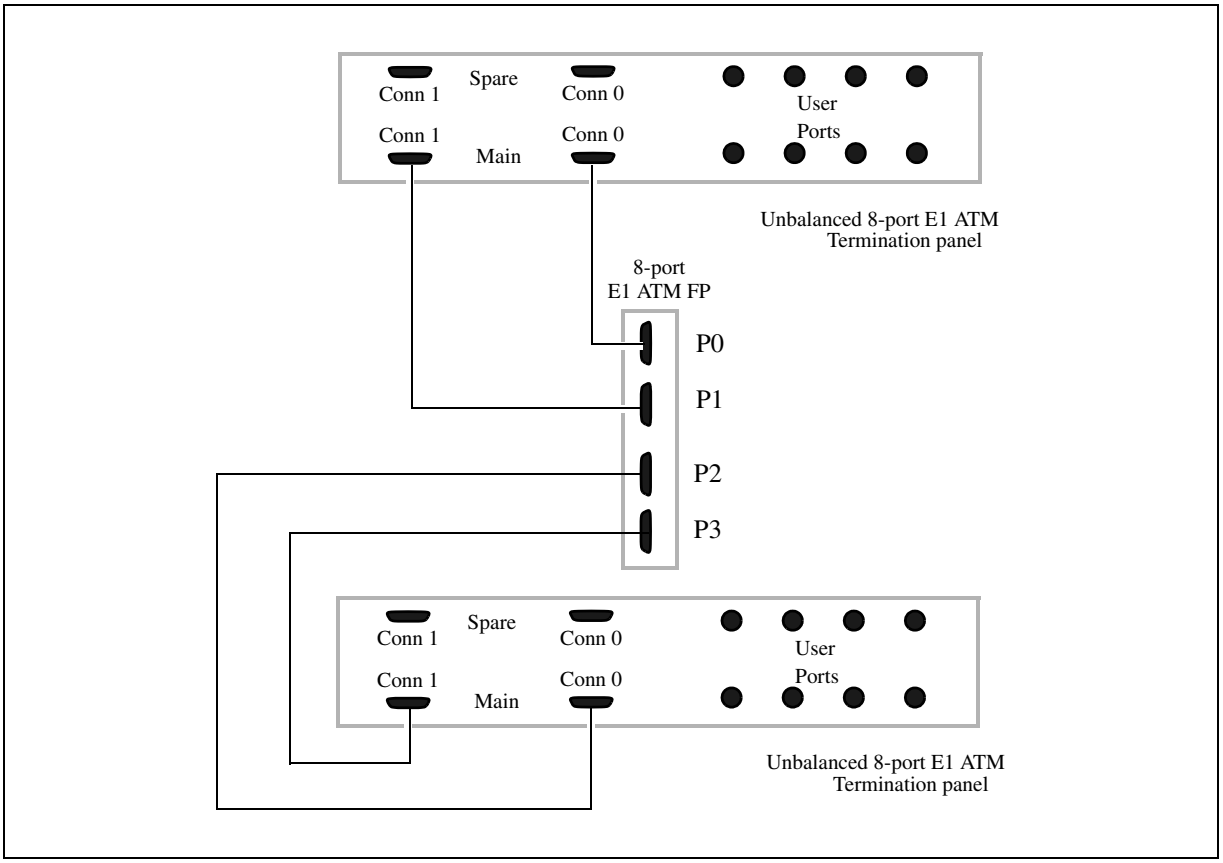
Connections for 8-port E1 ATM FP—balanced termination panel



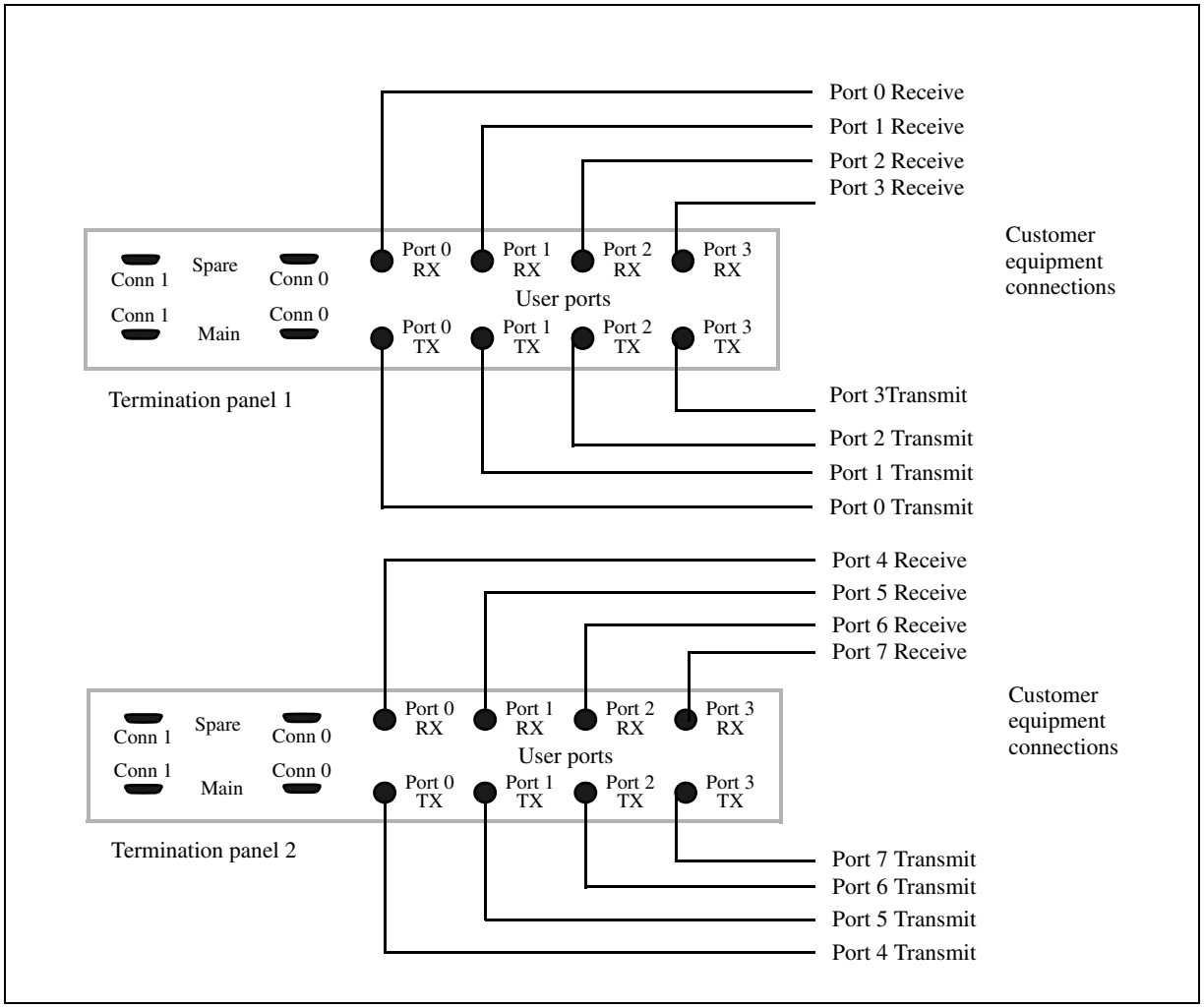
Customer equipment connections to balanced 8-port E1 ATM termination panels



Connections for 8-port E1 ATM FP—unbalanced termination panel



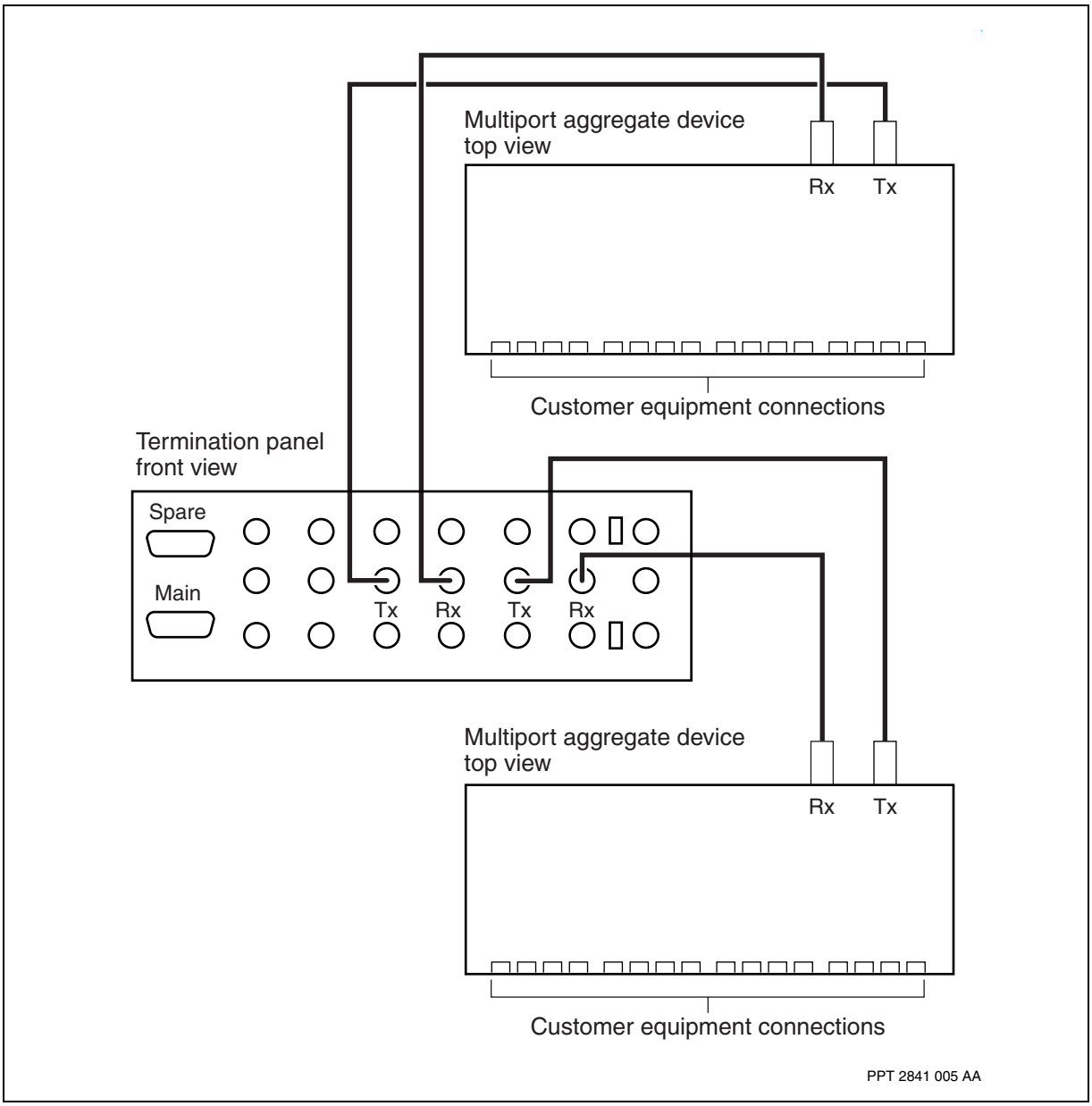
Customer equipment connections to unbalanced 8-port E1 ATM termination panels



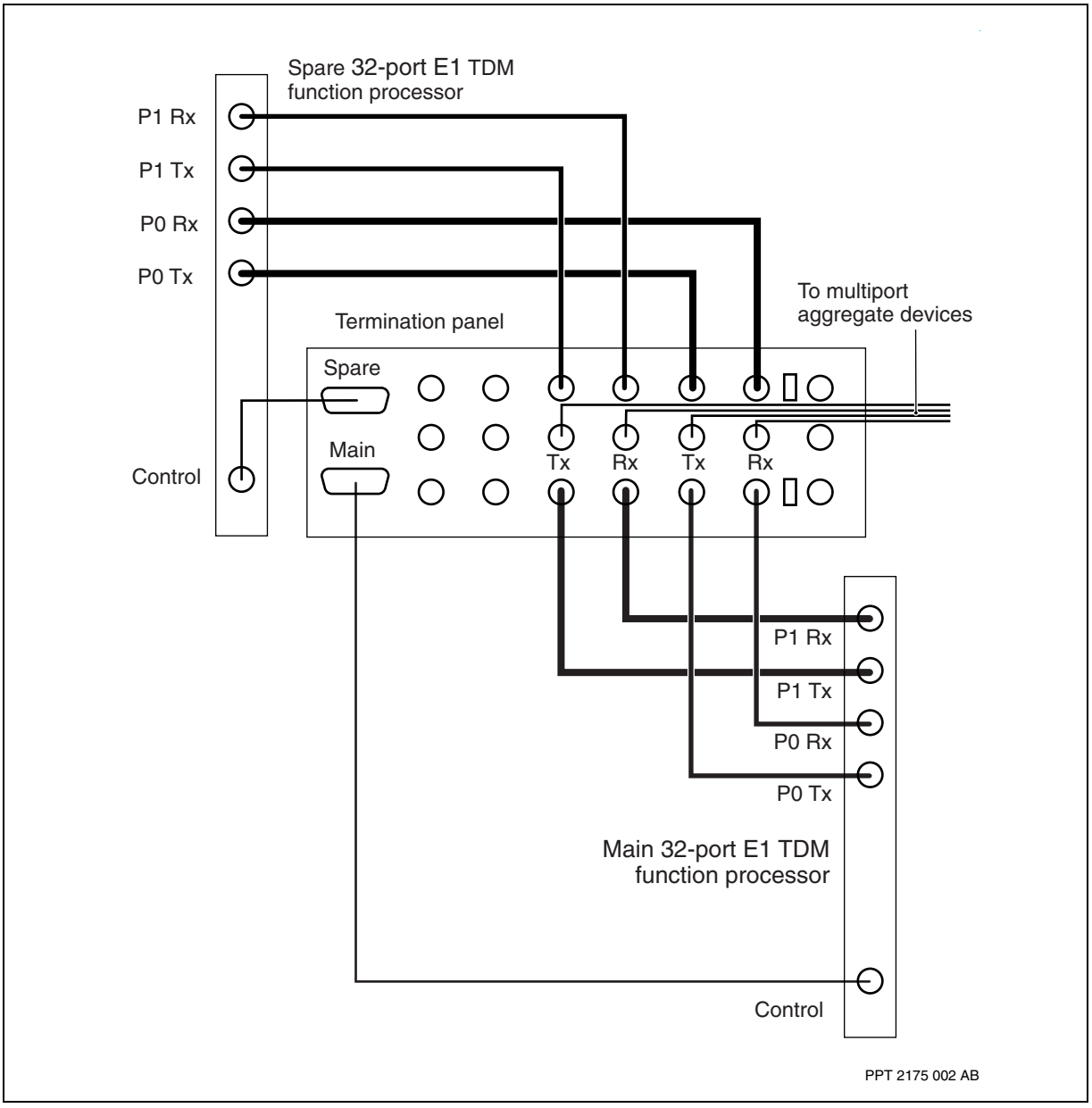
32-port E1 TDM FP cable connections

The 32-port E1 TDM FP uses a termination panel to support one-for-one sparing. Customer equipment connections are provided through a multiport aggregate device. Each multiport aggregate device provides individual RJ-45 connections to 16 E1 ports.

Customer equipment connections to multiport aggregate device



Connections for a 32-port E1 TDM FP



DS1 AAL1 FP cable connections

CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

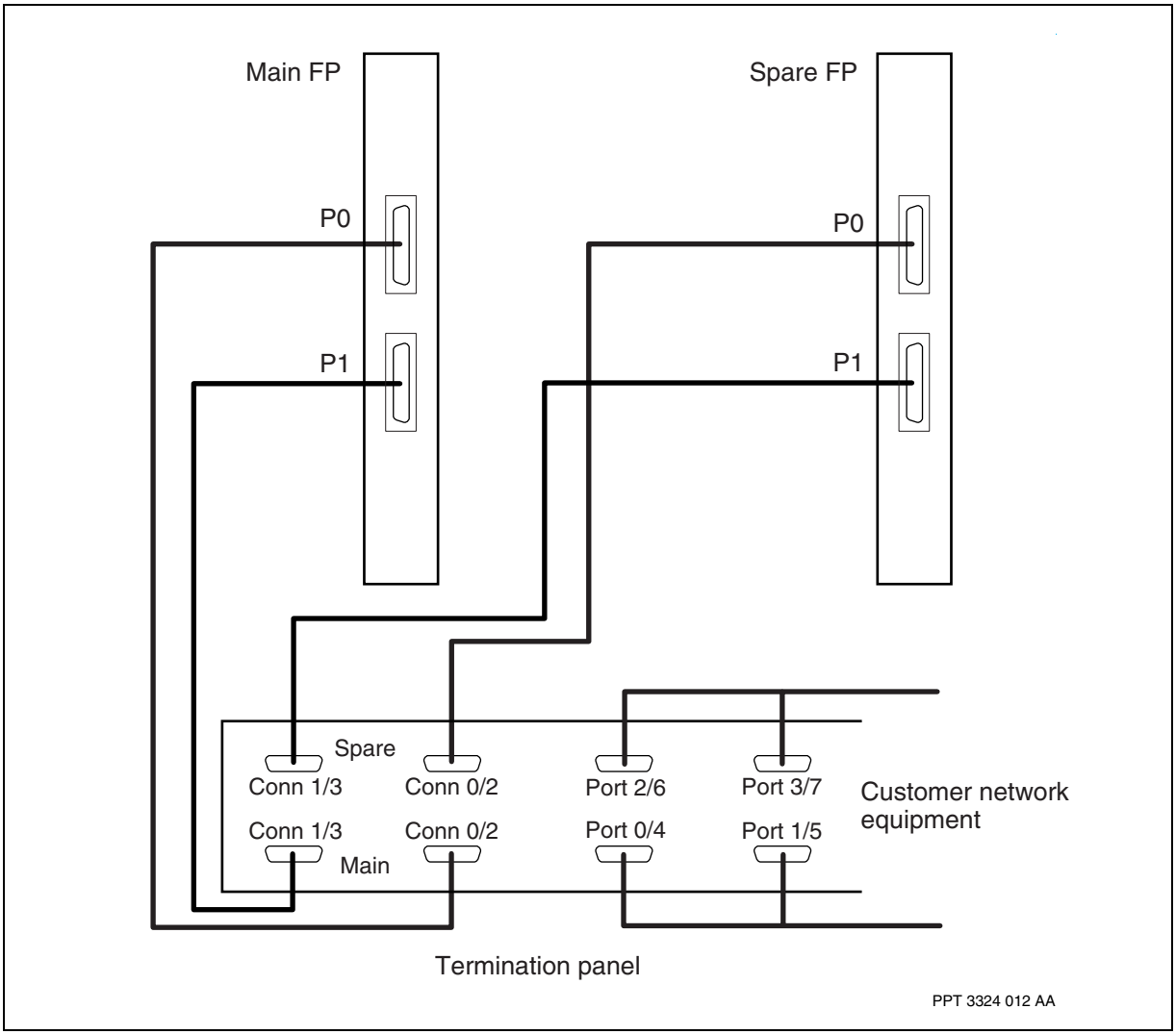
Mapping between a DS1 AAL1 FP and termination panel connectors

This table summarizes the mapping between the connectors for a DS1 AAL1 FP and its termination panel.

Mapping between a DS1 AAL1 FP and termination panel connectors

Faceplate connector	Termination panel port number
0	0 and 1
1	2 and 3

Cable connections for a DS1 AAL1 FP



DS1 or E1 MSA32 1-slot and 2-slot FP cable connections

CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

The method of supplying power to an MSA32 sparing panel is described in the section about power for a sparing panel in NN10600-170 *Nortel Multiservice Switch 7400 Hardware Description*.

The 1-slot and 2-slot versions of the MSA FPs are supported by the same termination and sparing panels with no difference in functionality. The PCR software compatibilities between FP versions are identified in NN10600-551 *Nortel Multiservice Switch 7400/15000/20000 FP Configuration Reference*. The FP 1-slot and 2-slot sparing configuration combinations and the available sparing panels are identified in the description of the DS1 and E1 FPs in NN10600-170 *Nortel Multiservice Switch 7400 Hardware Description*.

The cabling between a 1-slot FP and a termination or sparing panel is slightly different than the 2-slot FP. The higher pin density of the connectors on the 1-slot FPs requires a pair of adapter Y-cable NTPS39s or pairs of prefabricated Y-cables NTPS32, NTPS33, NTPS36, or NTPS37 to accommodate connecting to the lower pin density of existing FPs and sparing panels. The NTPS39 enables a cable-to-cable connection to existing termination or sparing panel cables with PEC NTPS03 or NTPS04. The descriptions of all FP cable assemblies are in NN10600-170 *Nortel Multiservice Switch 7400 Hardware Description*, while their installation procedures are in NN10600-175 *Nortel Multiservice Switch 7400 Hardware Installation, Maintenance, and Upgrade*.

Since the user port numbering is different at the faceplates of the 1-slot and 2-slot versions of the FPs, the cable connections are divided into:

- Mapping between DS1 or E1 MSA 1-slot FP and sparing panel connectors (page 41)
- DS1 or E1 MSA 1-slot FP cabling to termination or sparing panels (page 42)
- Mapping between DS1 or E1 MSA32 2-slot FP and sparing panel connectors (page 54)
- DS1 or E1 MSA 2-slot FP cabling to termination or sparing panels (page 55)

- DS1 or E1 MSA 1-slot and 2-slot FPs sharing the same sparing panels (page 68)

Mapping between DS1 or E1 MSA 1-slot FP and sparing panel connectors

The table Mapping between a DS1 or E1 MSA32 2-slot FP and sparing panel connectors (page 55) summarizes the sparing panel to FP cable connections according to the labels on the parts.

Mapping between a DS1 or E1 MSA32 1-slot FP and sparing panel connectors

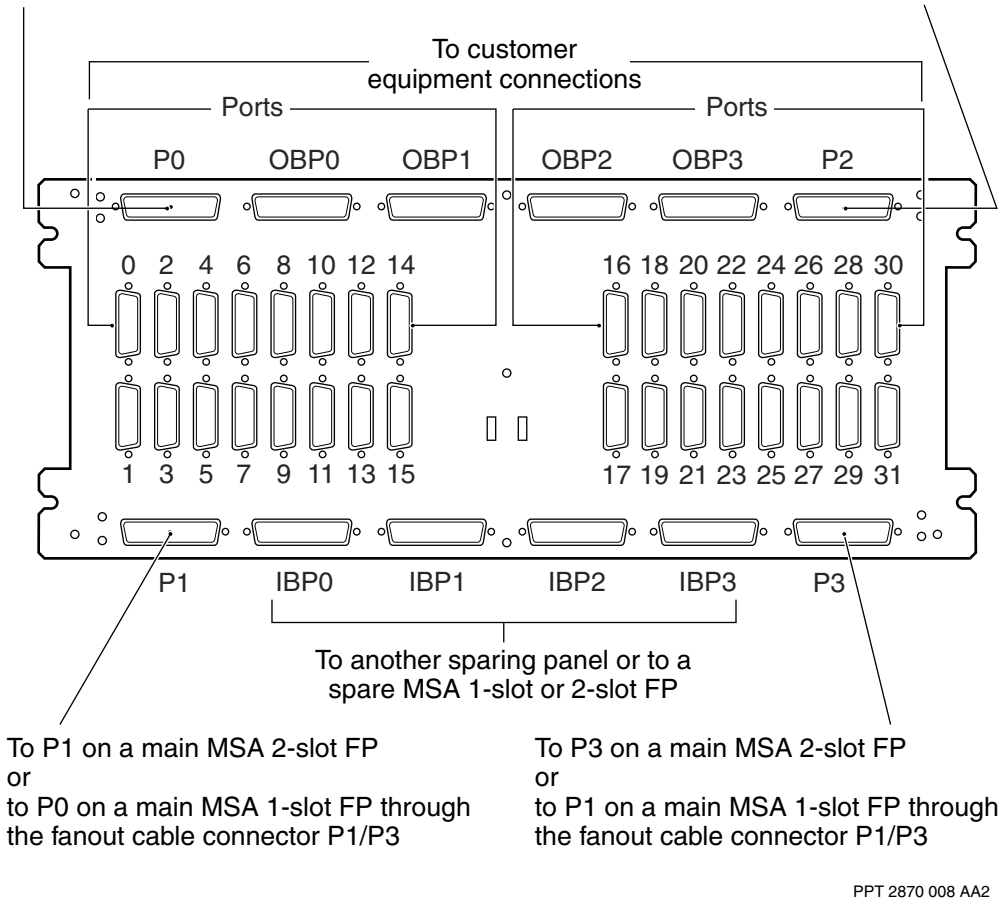
Termination panel name	Termination panel PEC	Termination panel faceplate connector	one of two 44-pin cable connectors	68-pin cable connector	MSA32 FP faceplate connector
1-port/DB15 for DS1 or E1	NTY197	P0 (user ports 0 to 7)	P0/P2	P0	P0
		P1 (user ports 8 to 15)	P1/P3	P0	P0
		P2 (user ports 16 to 23)	P0/P2	P1	P1
		P3 (user ports 24 to 31)	P1/P3	P1	P1
2-port/DB15 for DS1 or E1	NTY195	P0 (user ports 0 to 7)	P0/P2	P0	P0
		P1 (user ports 8 to 15)	P1/P3	P0	P0
		P2 (user ports 16 to 23)	P0/P2	P1	P1
		P3 (user ports 24 to 31)	P1/P3	P1	P1
RJ-45 for DS1 or E1	NTJS95	P0 (user ports 0 to 7)	P0/P2	P0	P0
		P1 (user ports 8 to 15)	P1/P3	P0	P0
		P2 (user ports 16 to 23)	P0/P2	P1	P1
		P3 (user ports 24 to 31)	P1/P3	P1	P1
unbalanced BNC for E1 only	NTY196	P0 (user ports 0 to 7)	P0/P2	P0	P0
		P1 (user ports 8 to 15)	P1/P3	P0	P0
		P2 (user ports 16 to 23)	P0/P2	P1	P1
		P3 (user ports 24 to 31)	P1/P3	P1	P1

DS1 or E1 MSA 1-slot FP cabling to termination or sparing panels

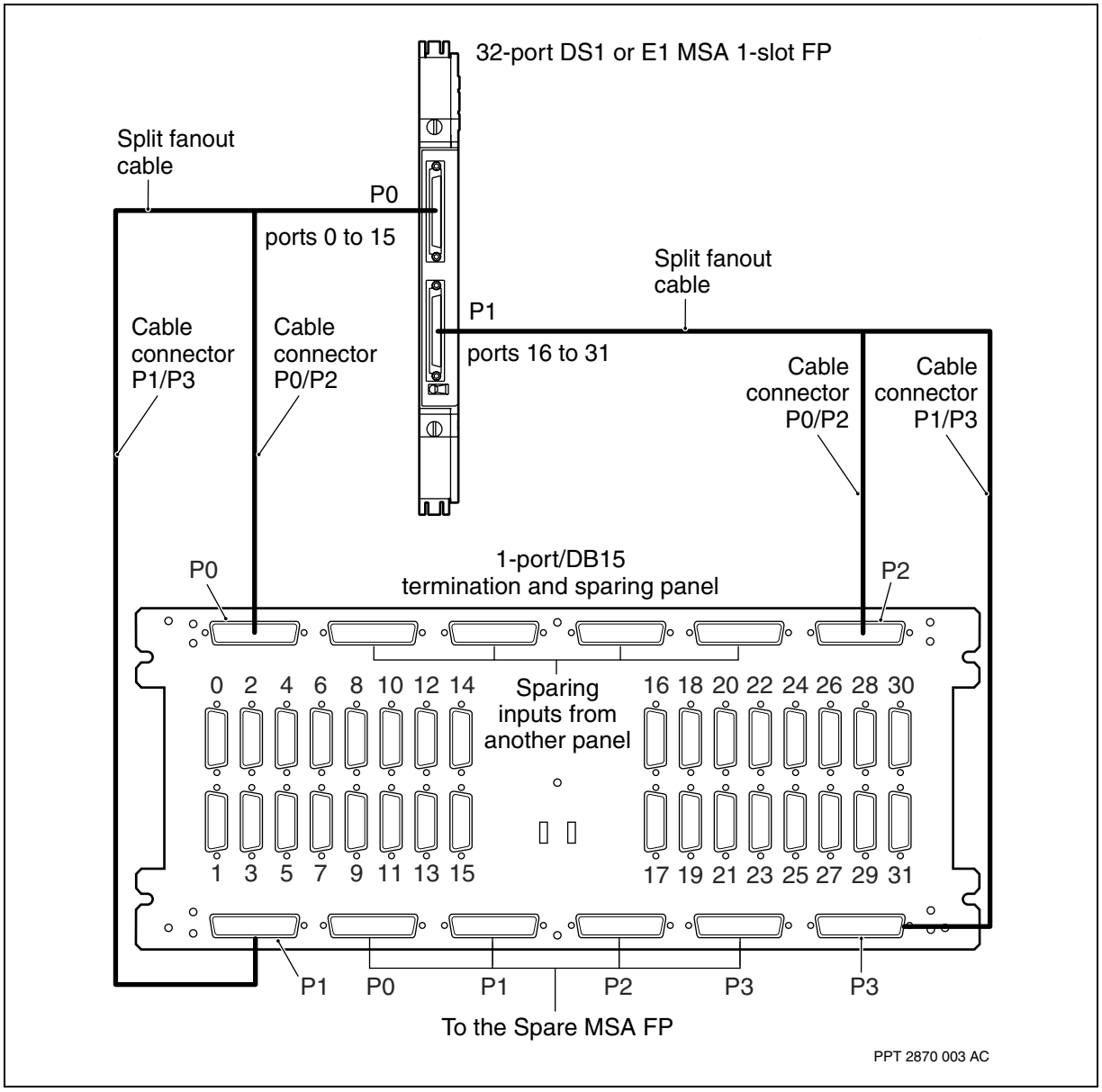
The following figures show the cable connections between a DS1 or E1 MSA 1-slot FP and the various types of termination and sparing panels.

For the connection of the 1-slot FPs with 2-slot FPs in the same sparing configuration, see DS1 or E1 MSA 1-slot and 2-slot FPs sharing the same sparing panels (page 68).

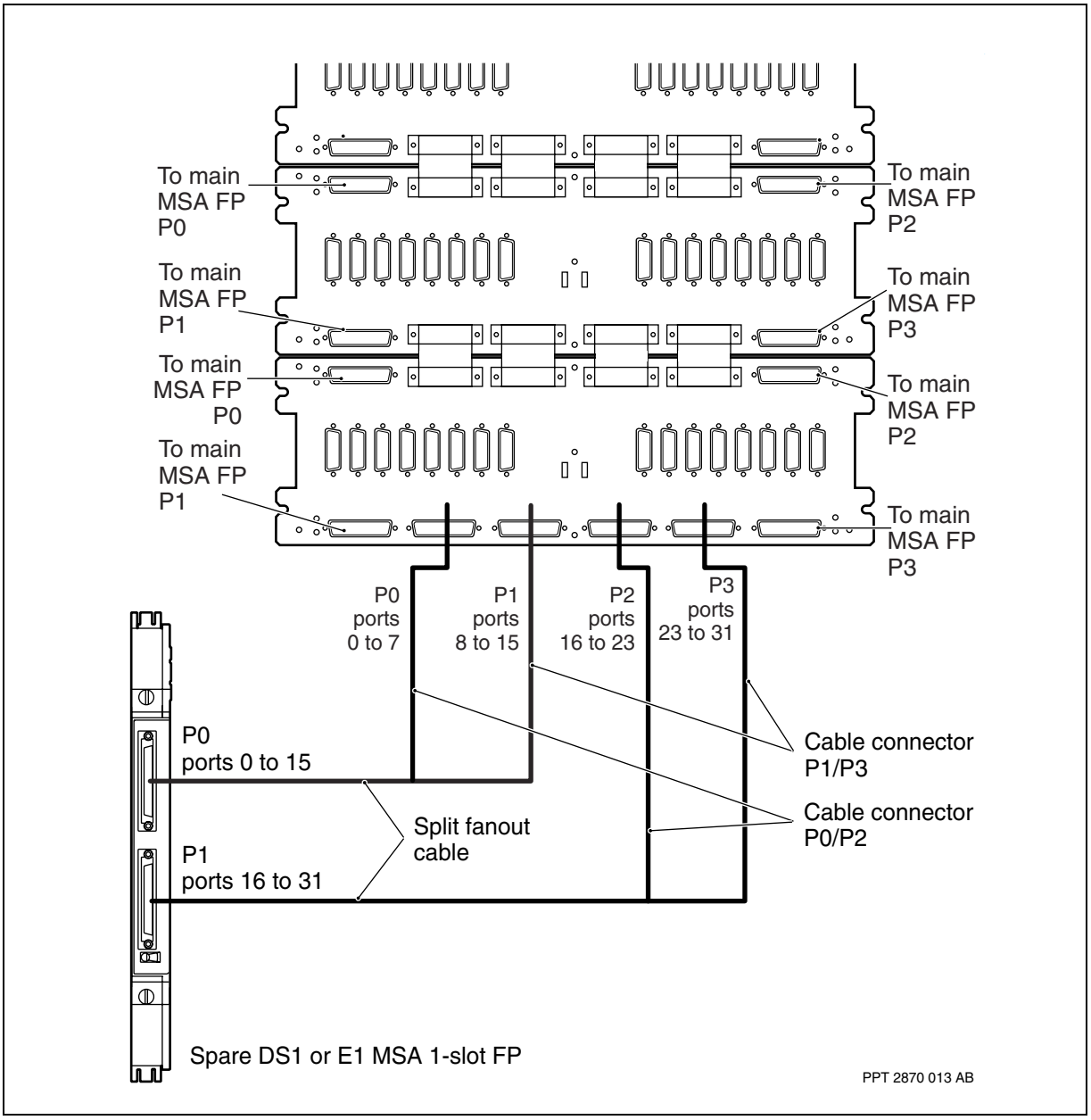
1-port/DB15 sparing panel connections to 32-port DS1 or E1 MSA FPs and CPE



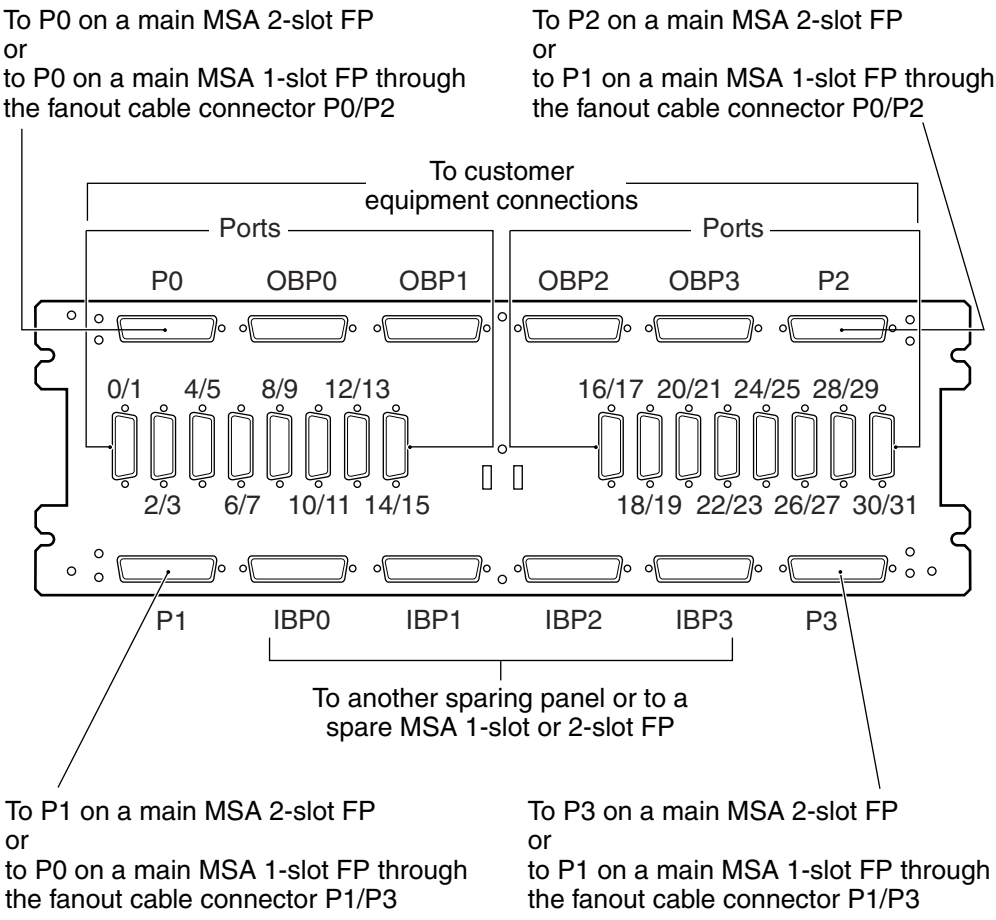
1-port/DB15 sparing panel connections to a main 32-port DS1 or E1 MSA 1-slot FP



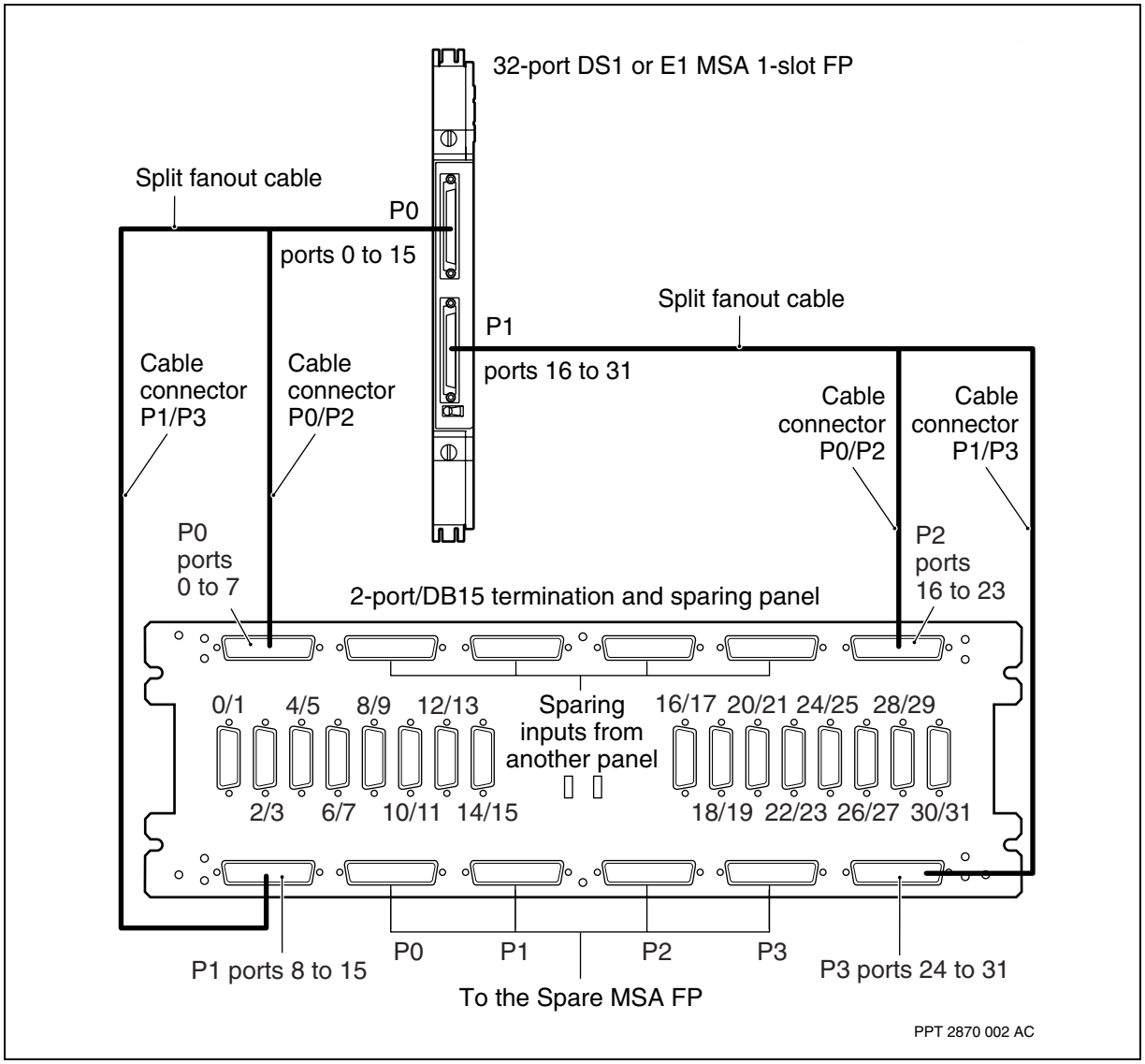
1-port/DB15 sparing panel one-for-n connections to a spare 32-port DS1 or E1 MSA 1-slot FP



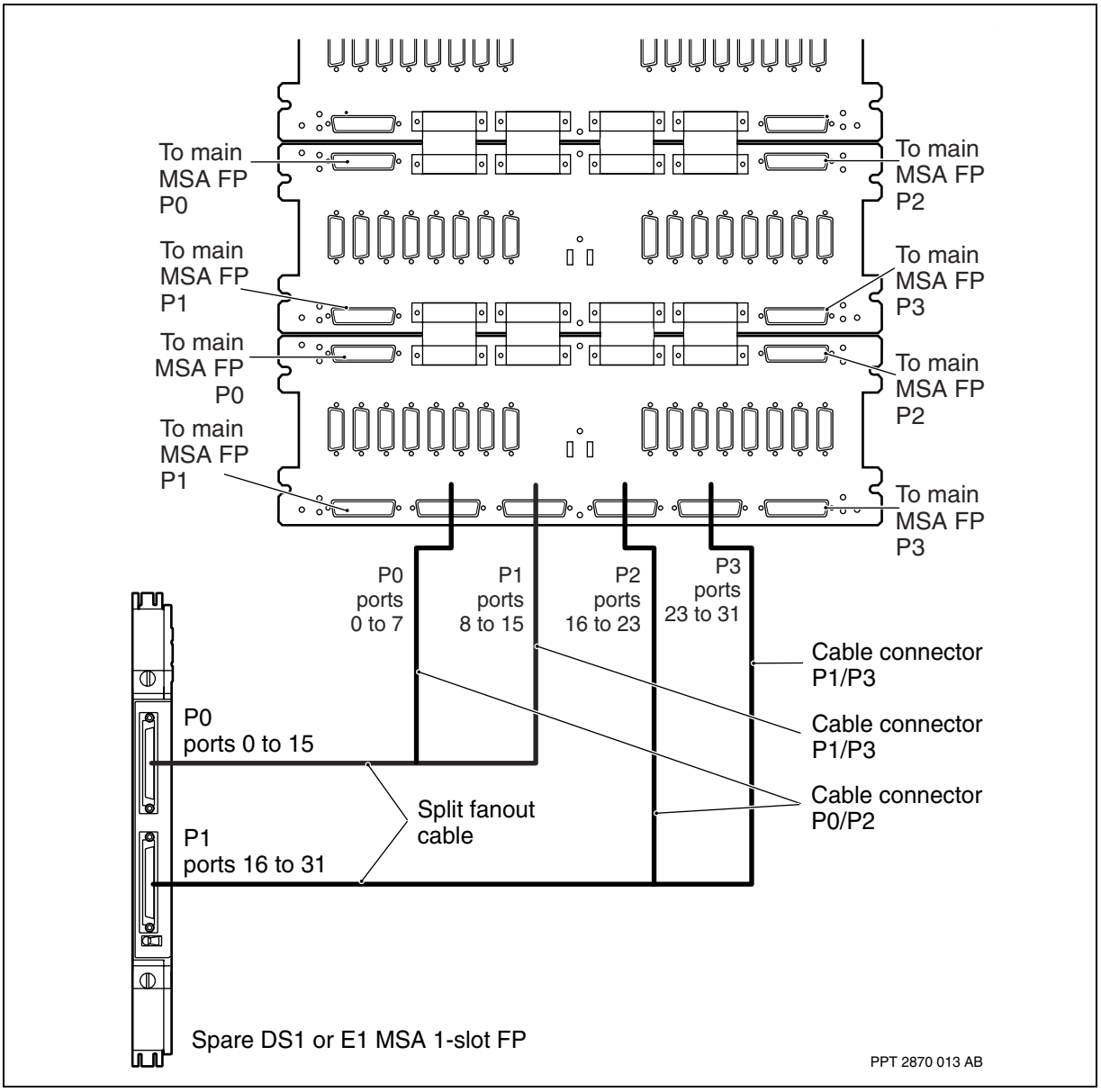
2-port/DB15 sparing panel connections to 32-port DS1 or E1 MSA FPs and CPE



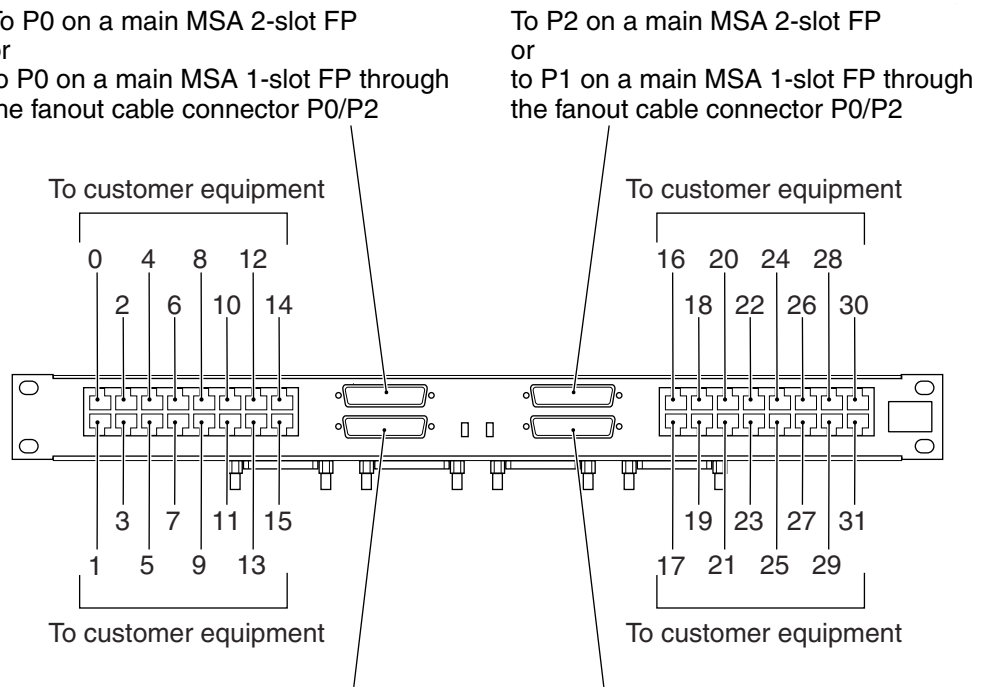
2-port/DB15 sparing panel connections to a main 32-port DS1 or E1 MSA 1-slot FP



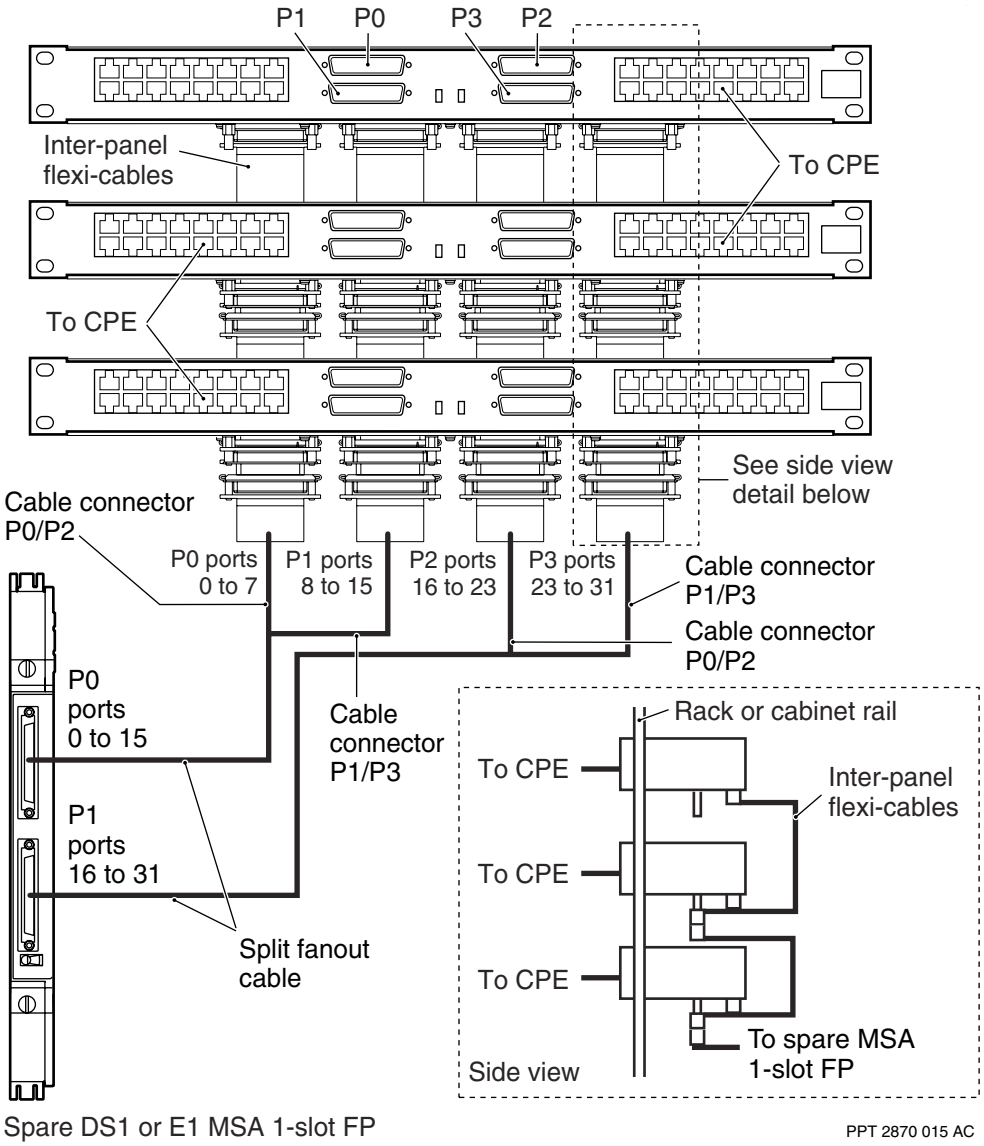
2-port/DB15 sparing panel one-for-n connections to a spare 32-port DS1 or E1 MSA 1-slot FP



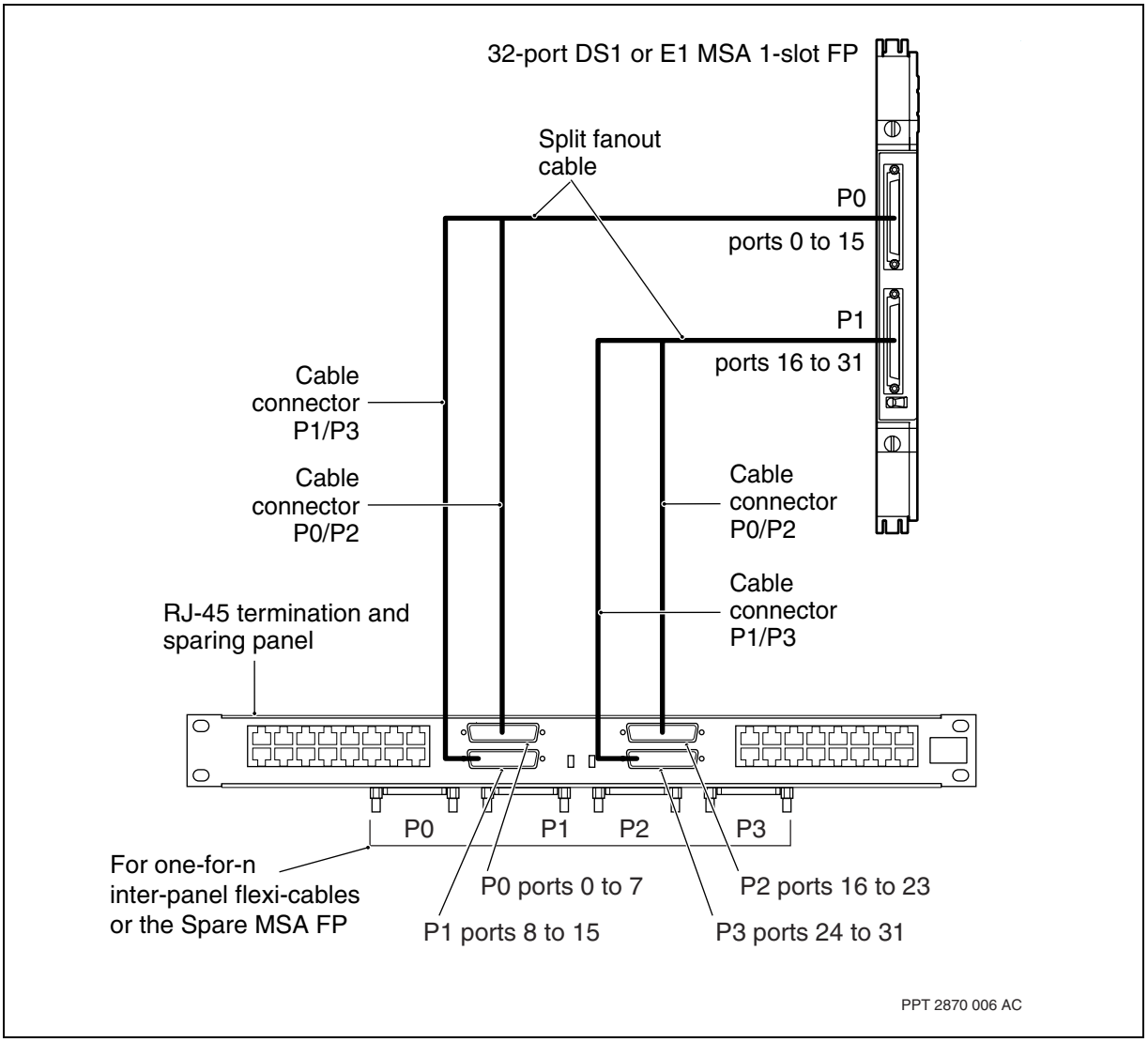
RJ-45 sparing panel connections to 32-port DS1 or E1 MSA FPs and CPE



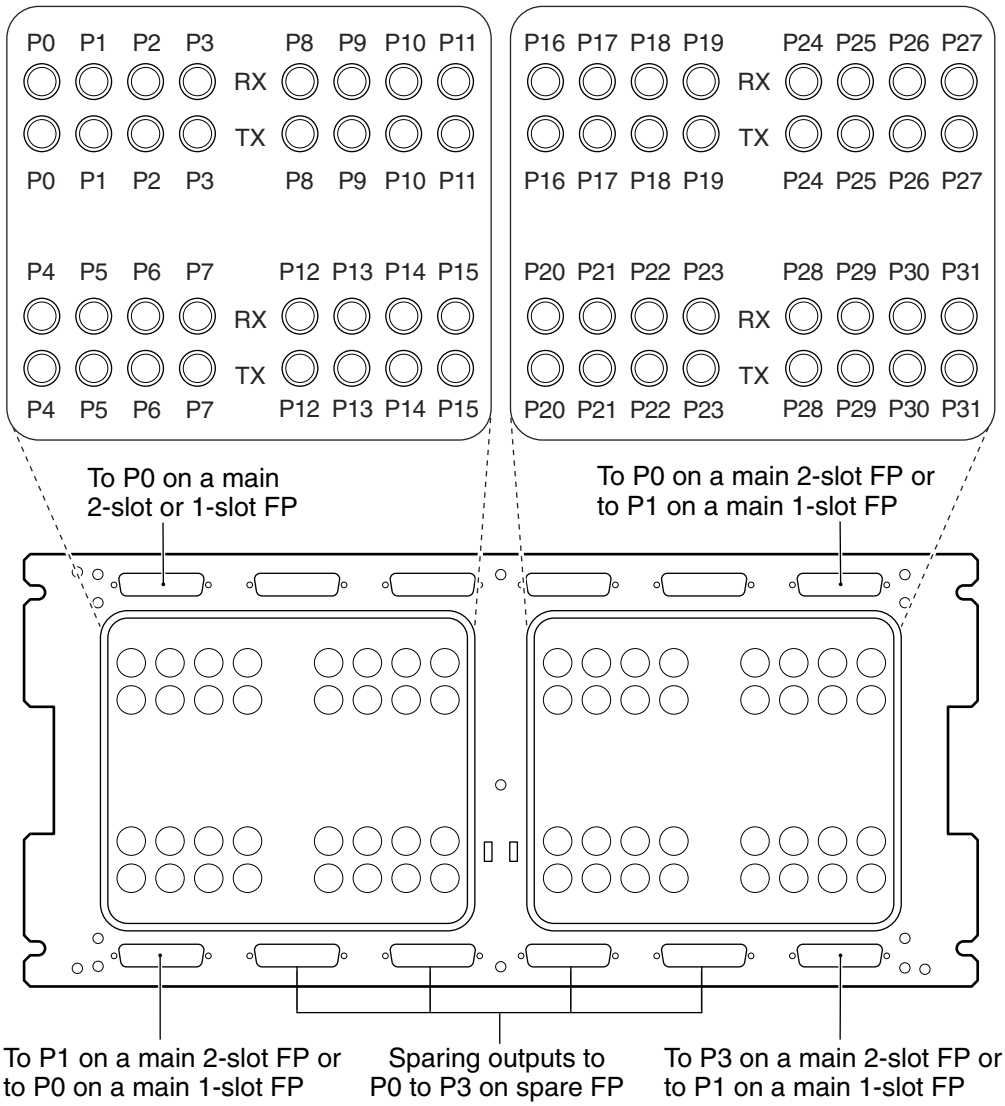
RJ-45 sparing panel one-for-n connections to a spare 32-port DS1 or E1 MSA 1-slot FP



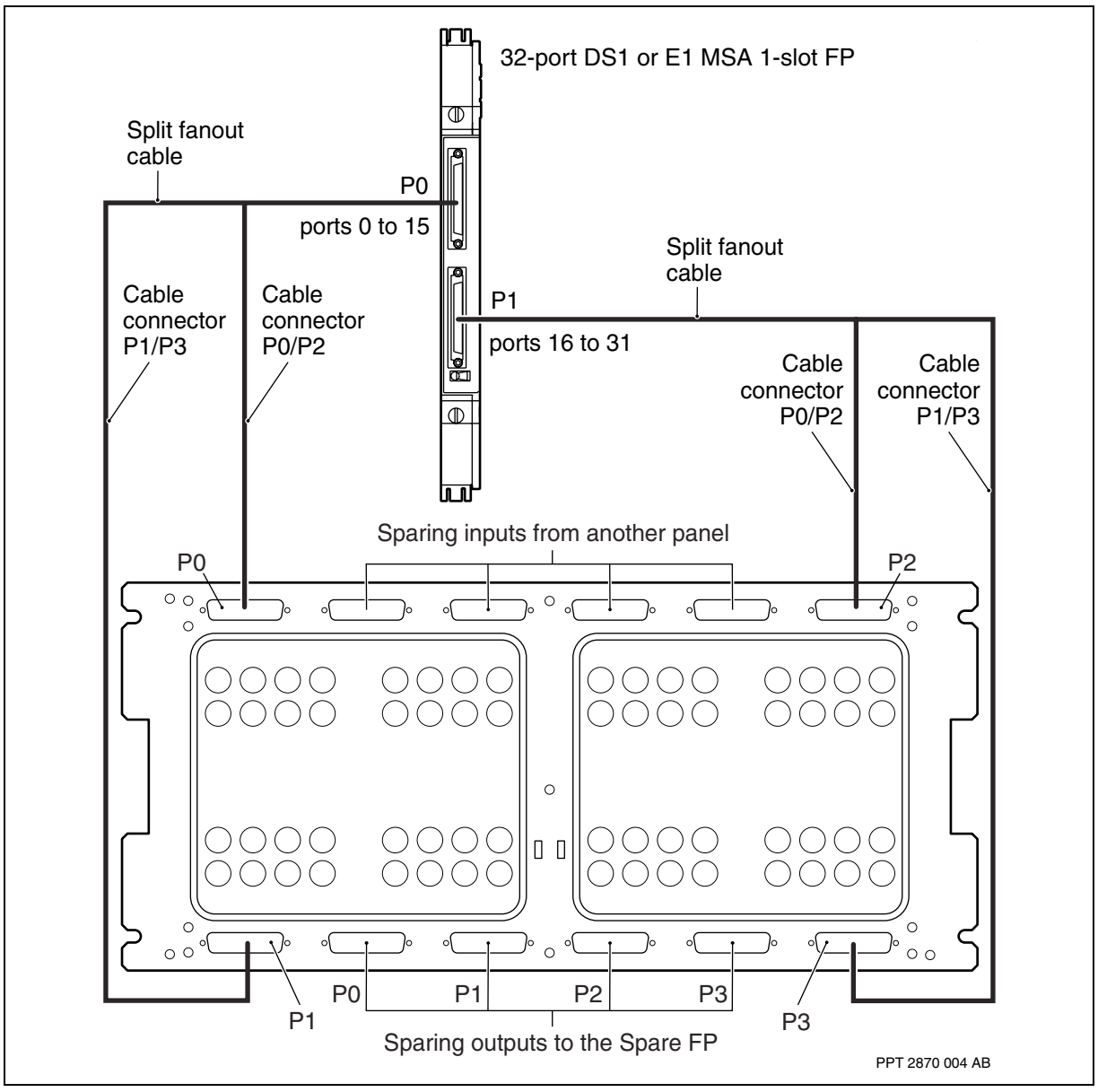
RJ-45 sparing panel connections to a main 32-port DS1 or E1 MSA 1-slot FP



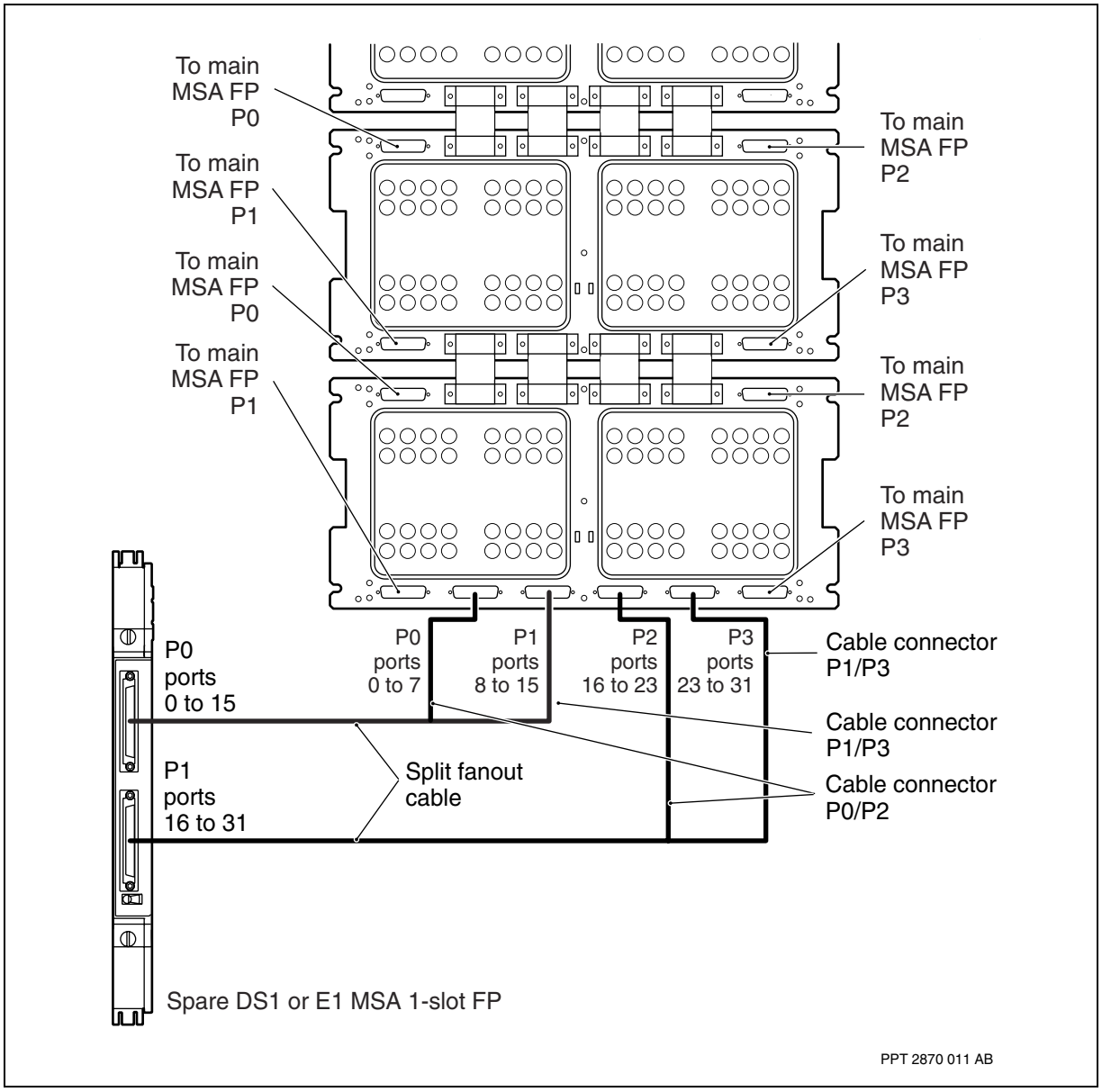
Unbalanced BNC sparing panel connections to E1 MSA FPs and CPE



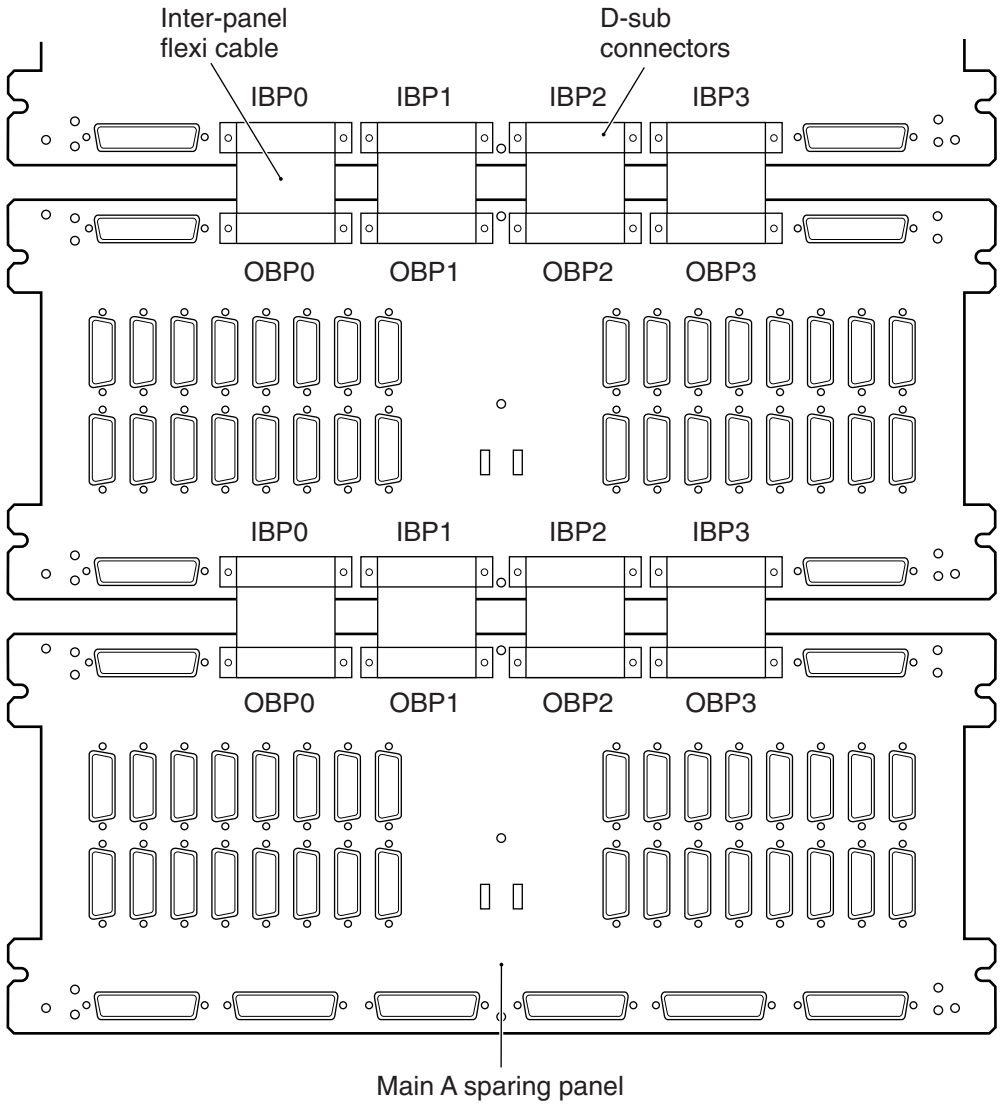
Unbalanced BNC sparing panel connections to a main 32-port E1 MSA 1-slot FP



Unbalanced BNC sparing panel one-for-n connections to a spare E1 MSA 1-slot FP



BNC and DB15 sparing panels one-for-n inter-panel flexi-cable connectors



Mapping between DS1 or E1 MSA32 2-slot FP and sparing panel connectors

The table Mapping between a DS1 or E1 MSA32 2-slot FP and sparing panel connectors (page 55) summarizes the sparing panel to FP cable connections by faceplate labels.

Mapping between a DS1 or E1 MSA32 2-slot FP and sparing panel connectors

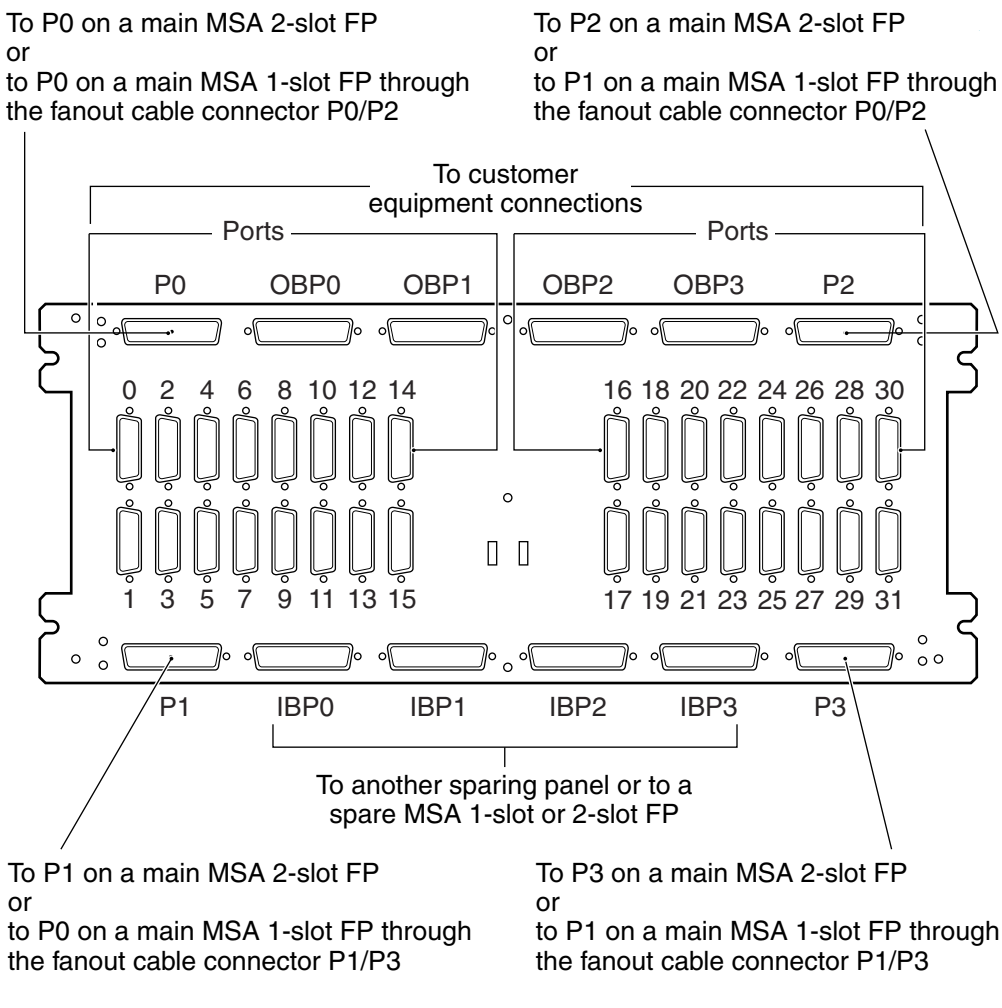
Termination panel name	Termination panel faceplate female connector	NTPS03 or NTPS04 female connector	NTPS03 or NTPS04 male connector	MSA32 FP faceplate female connector
1-port/DB15	P0 (user ports 0 to 7)	P0	P0	P0
for DS1 or E1	P1 (user ports 8 to 15)	P1	P1	P1
	P2 (user ports 16 to 23)	P2	P2	P2
	P3 (user ports 24 to 31)	P3	P3	P3
2-port/DB15	P0 (user ports 0 to 7)	P0	P0	P0
for DS1 or E1	P1 (user ports 8 to 15)	P1	P1	P1
	P2 (user ports 16 to 23)	P2	P2	P2
	P3 (user ports 24 to 31)	P3	P3	P3
RJ-45	P0 (user ports 0 to 7)	P0	P0	P0
for DS1 or E1	P1 (user ports 8 to 15)	P1	P1	P1
	P2 (user ports 16 to 23)	P2	P2	P2
	P3 (user ports 24 to 31)	P3	P3	P3
unbalanced BNC	P0 (user ports 0 to 7)	P0	P0	P0
	P1 (user ports 8 to 15)	P1	P1	P1
for E1 only	P2 (user ports 16 to 23)	P2	P2	P2
	P3 (user ports 24 to 31)	P3	P3	P3

DS1 or E1 MSA 2-slot FP cabling to termination or sparing panels

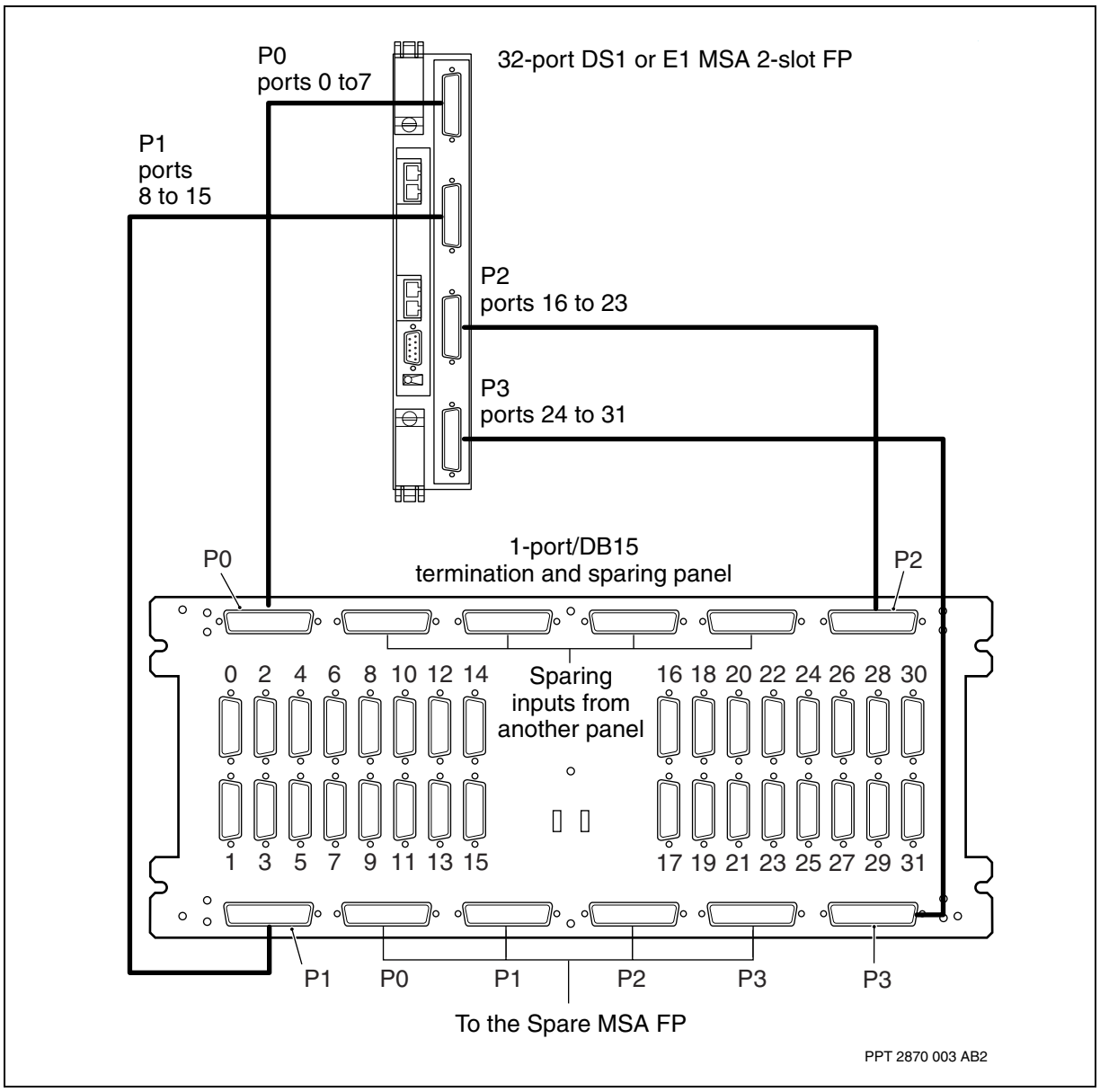
The following figures show the cable connections between a DS1 or E1 MSA 2-slot FP and the various termination and sparing panels.

For the connection of the 1-slot FPs with 2-slot FPs in the same sparing configuration, see DS1 or E1 MSA 1-slot and 2-slot FPs sharing the same sparing panels (page 68).

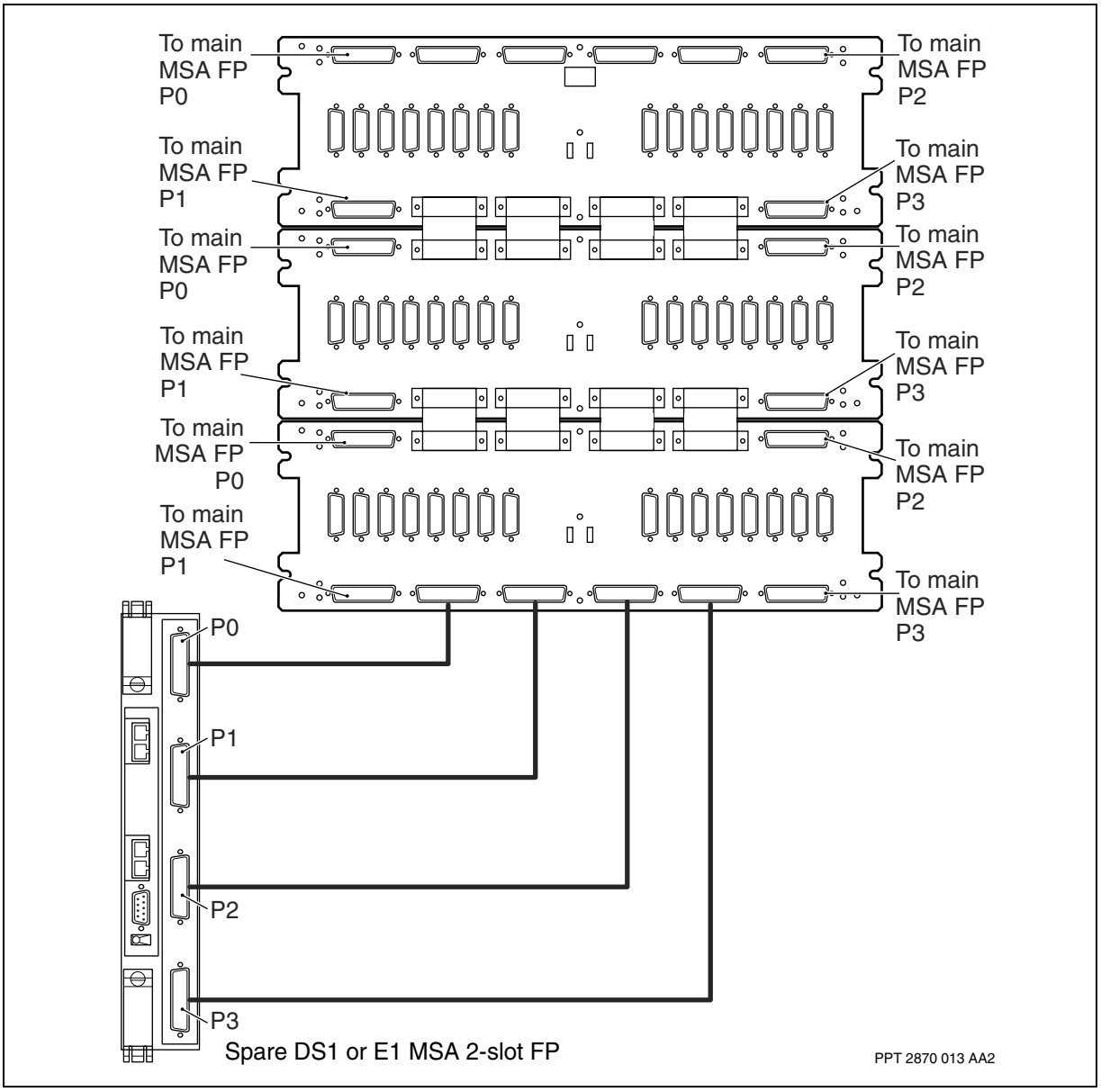
1-port/DB15 sparing panel connections to 32-port DS1 or E1 MSA FPs and CPE



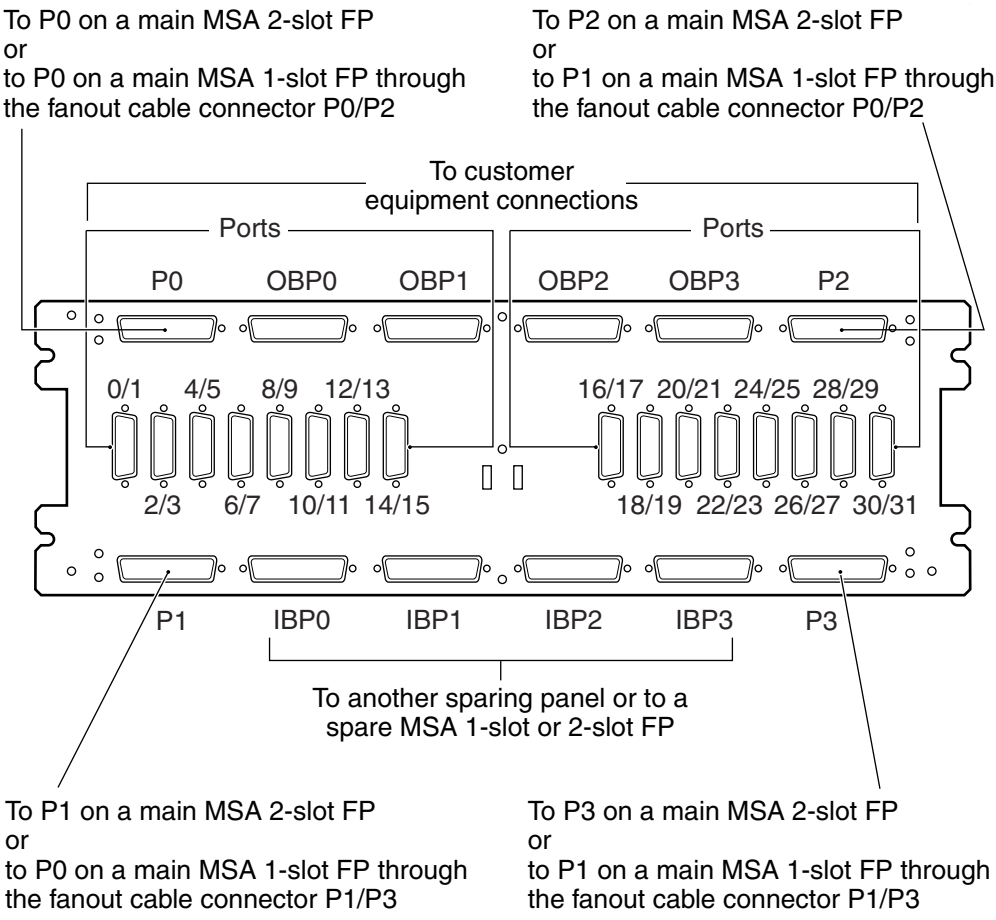
1-port/DB15 sparing panel connections to a main 32-port DS1 or E1 MSA 2-slot FP



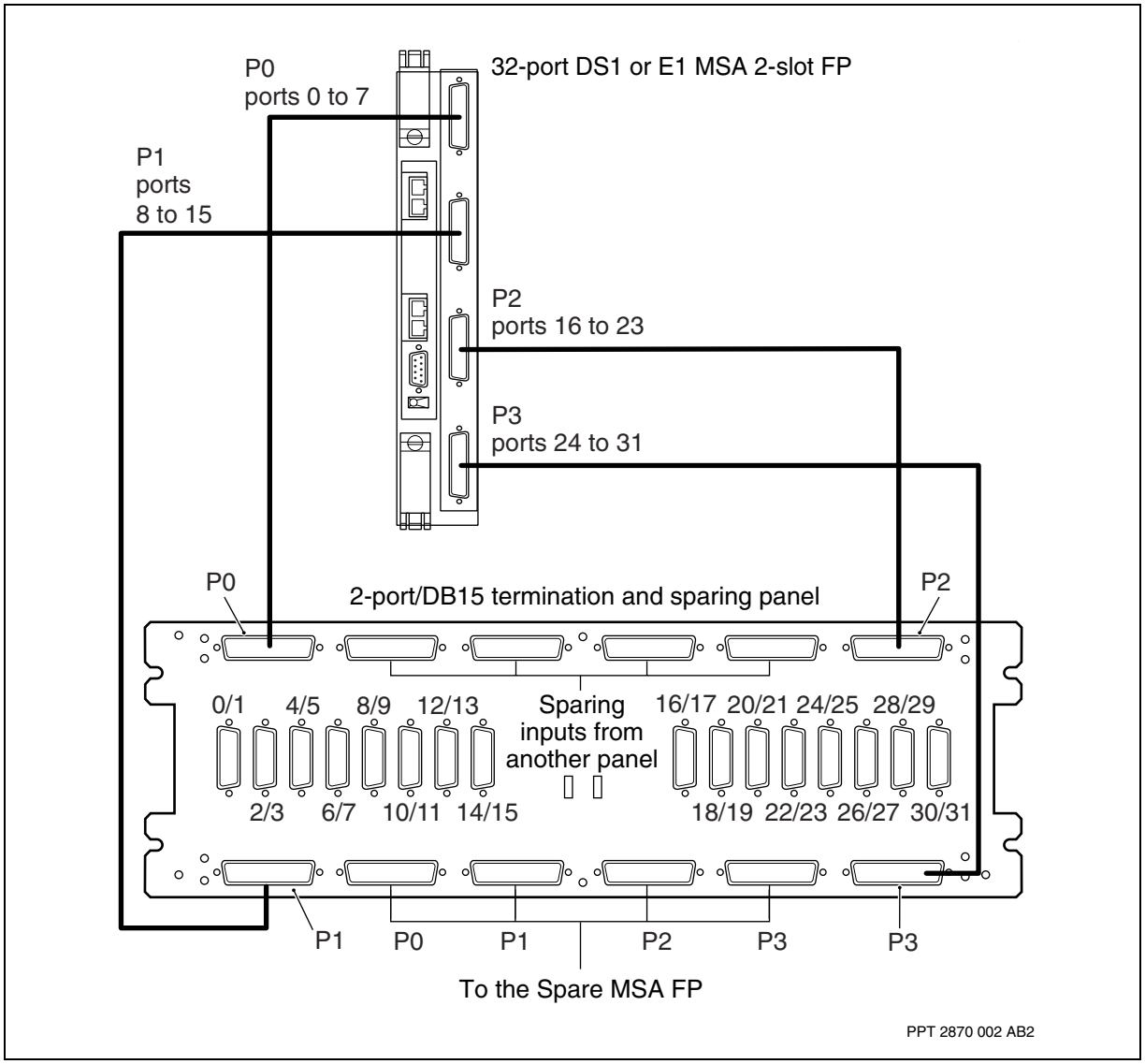
1-port/DB15 sparing panel one-for-n connections to a spare 32-port DS1 or E1 MSA 2-slot FP



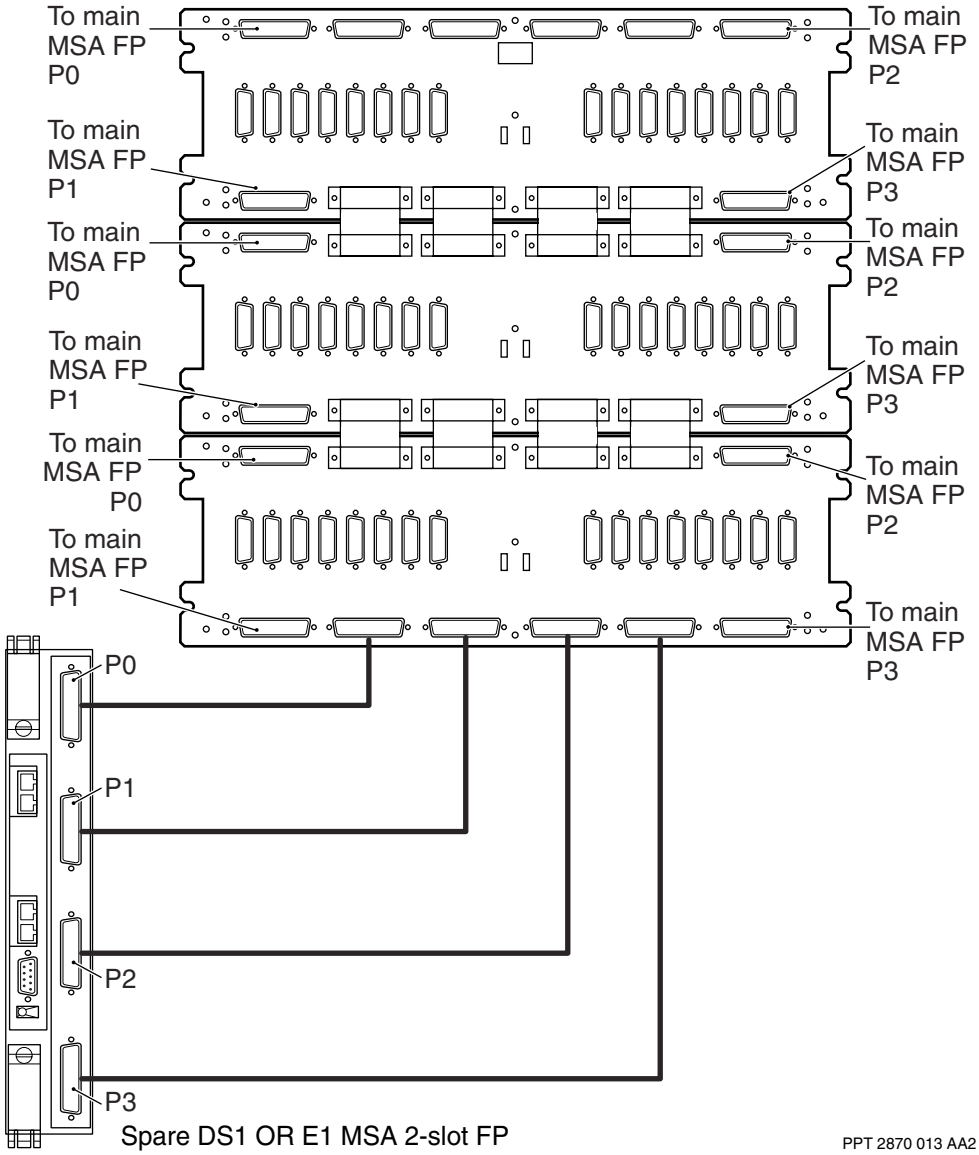
2-port/DB15 sparing panel connections to 32-port DS1 or E1 MSA2 FPs and CPE



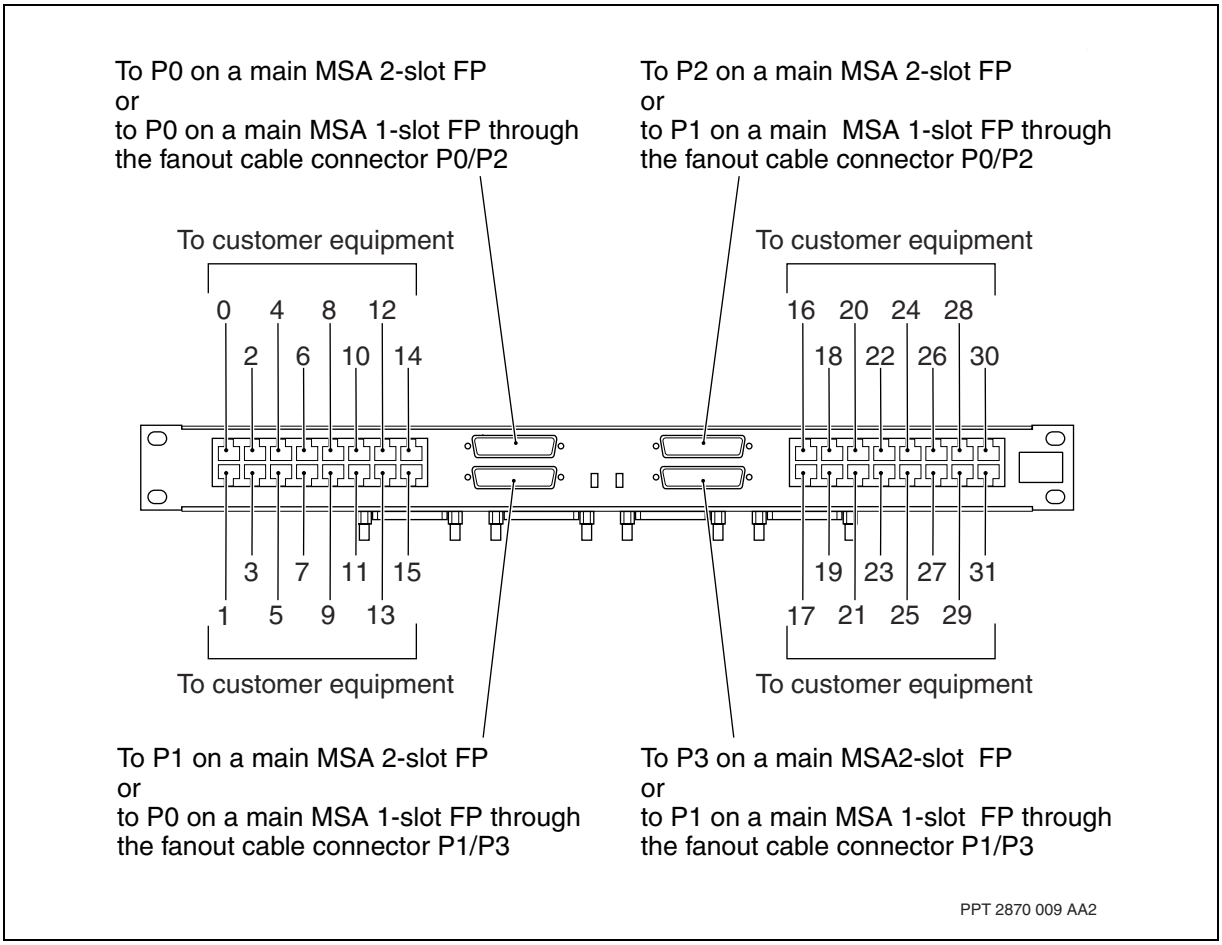
2-port/DB15 sparing panel one-for-n connections to a main 32-port DS1 or E1 MSA 2-slot FP



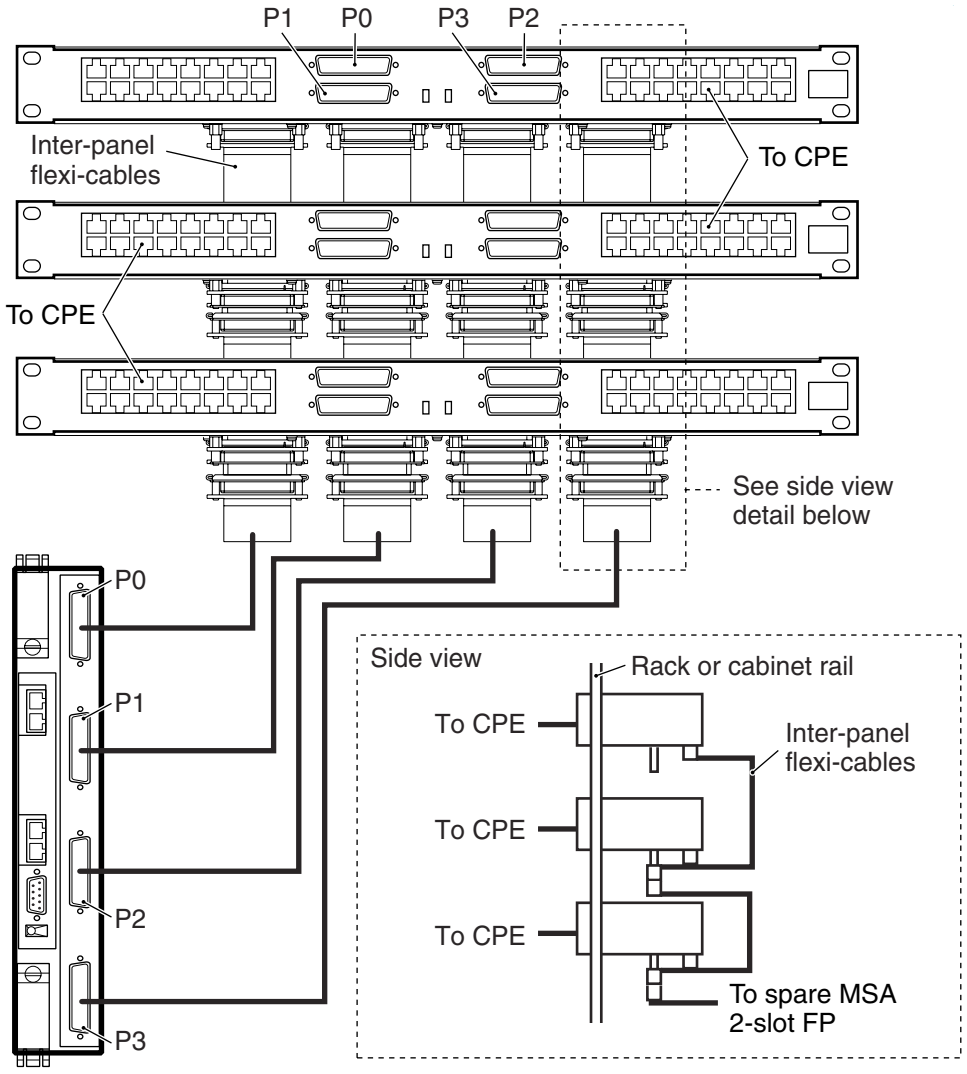
2-port/DB15 sparing panel one-for-n connections to a spare 32-port DS1 or E1 MSA 2-slot FP



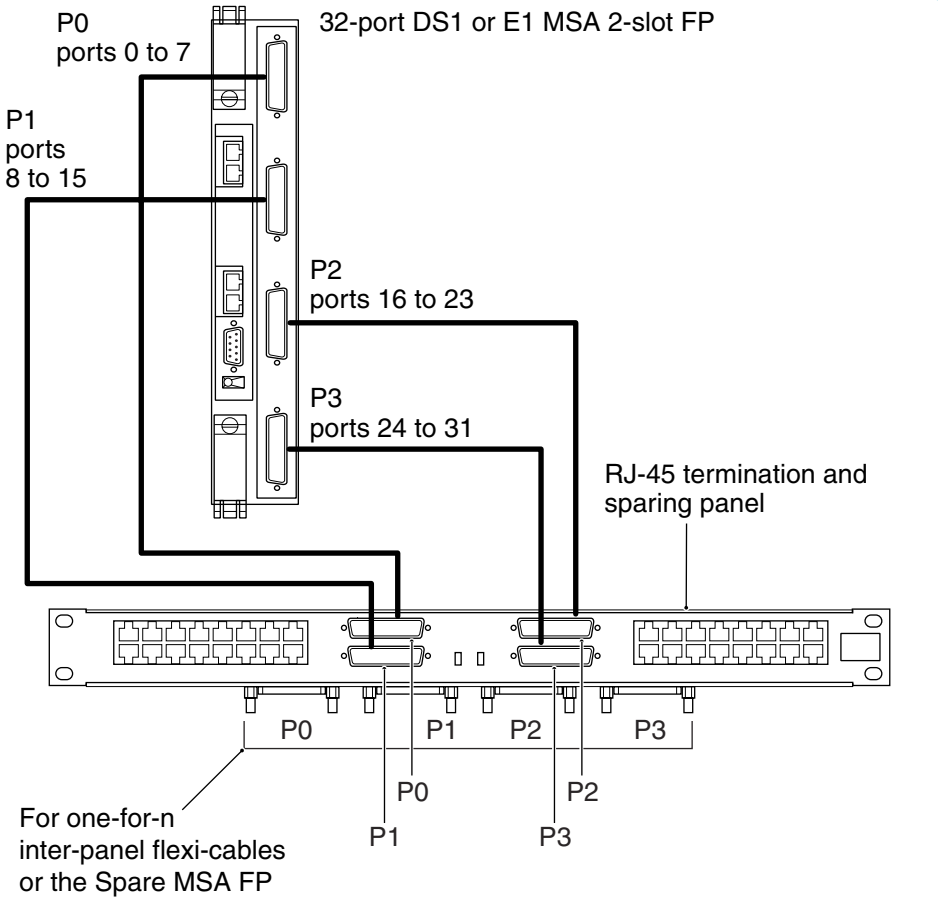
RJ-45 sparing panel connections to 32-port DS1 or E1 MSA FPs and CPE



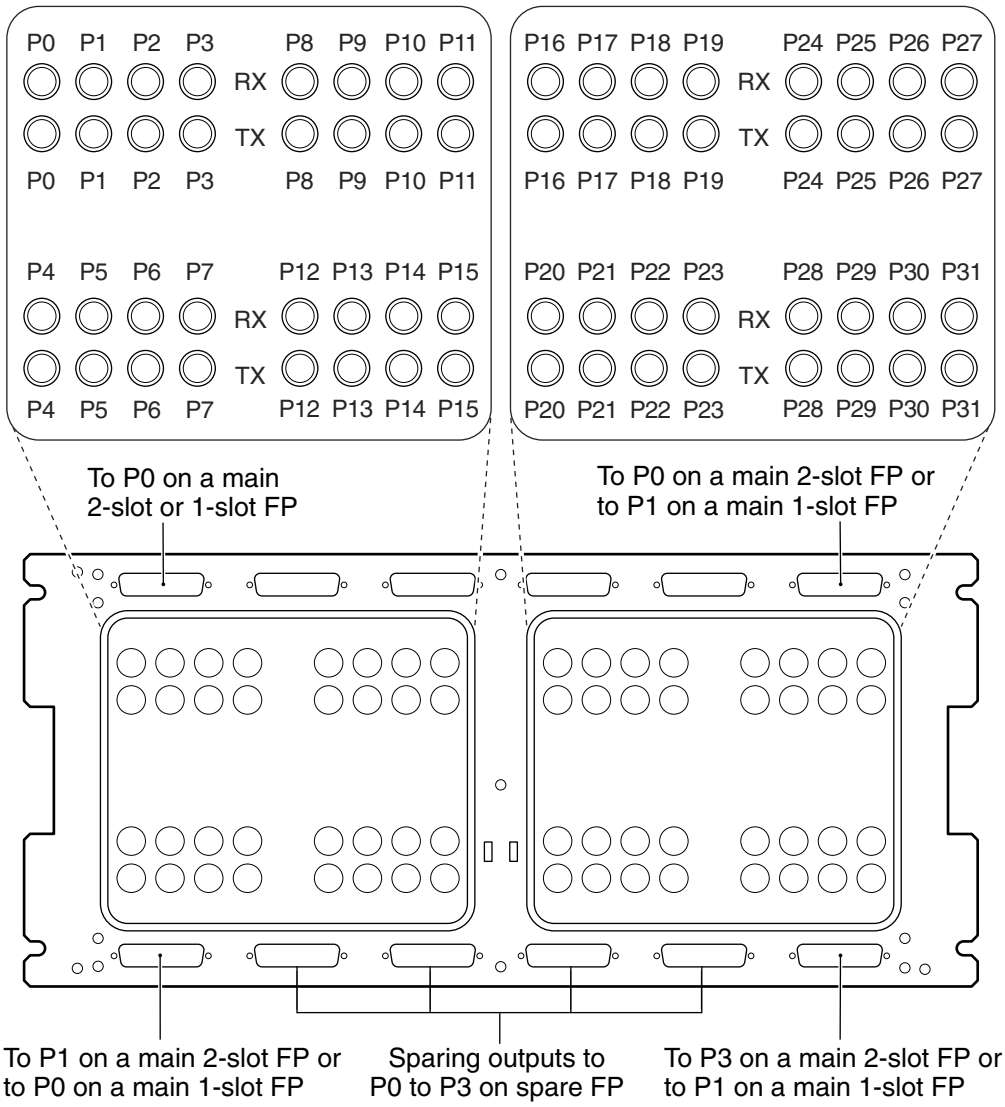
RJ-45 sparing panel one-for-n connections to a spare 32-port DS1 or E1 MSA 2-slot FP



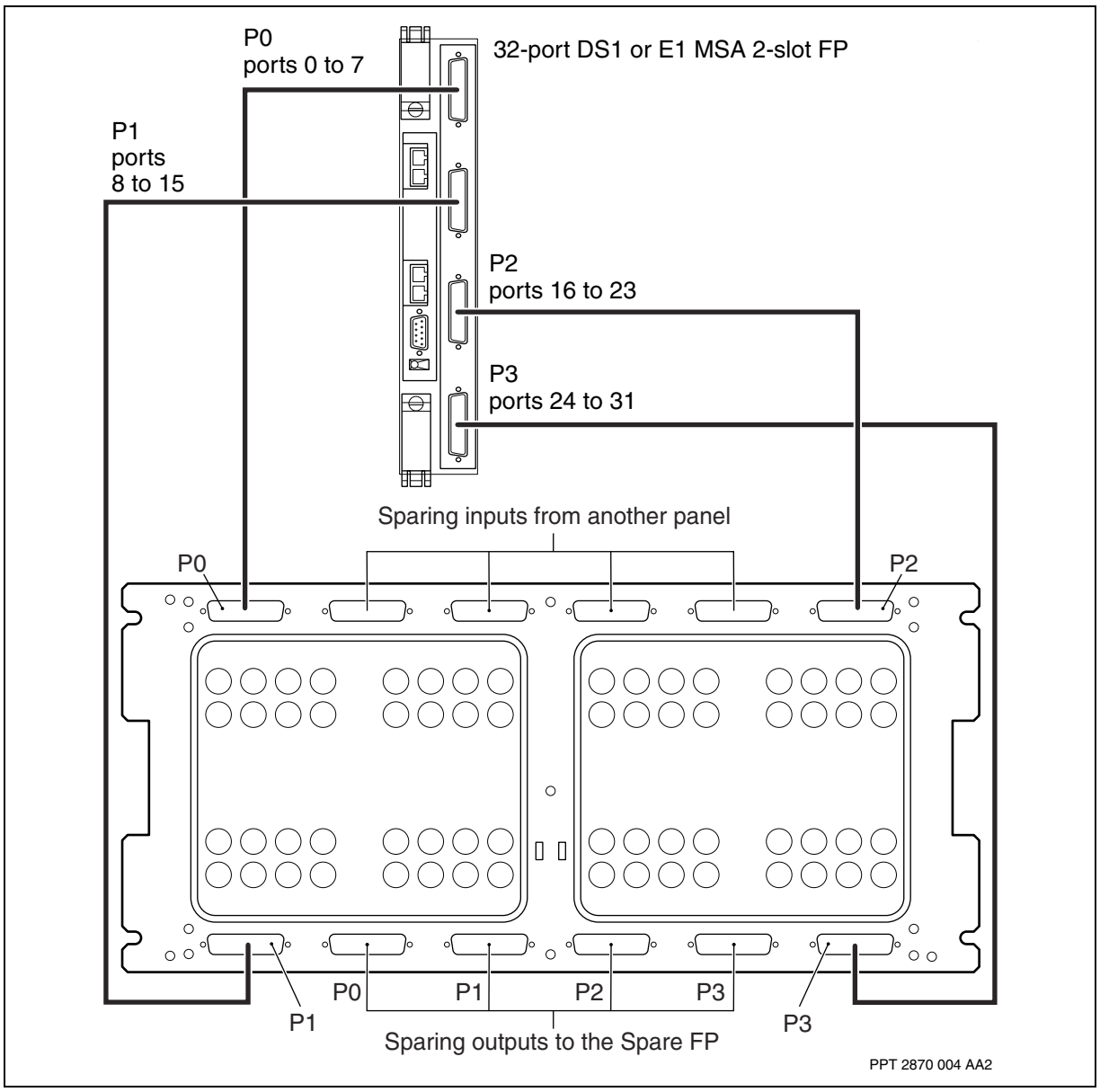
RJ-45 sparing panel connections to a main 32-port DS1 or E1 MSA 2-slot FP



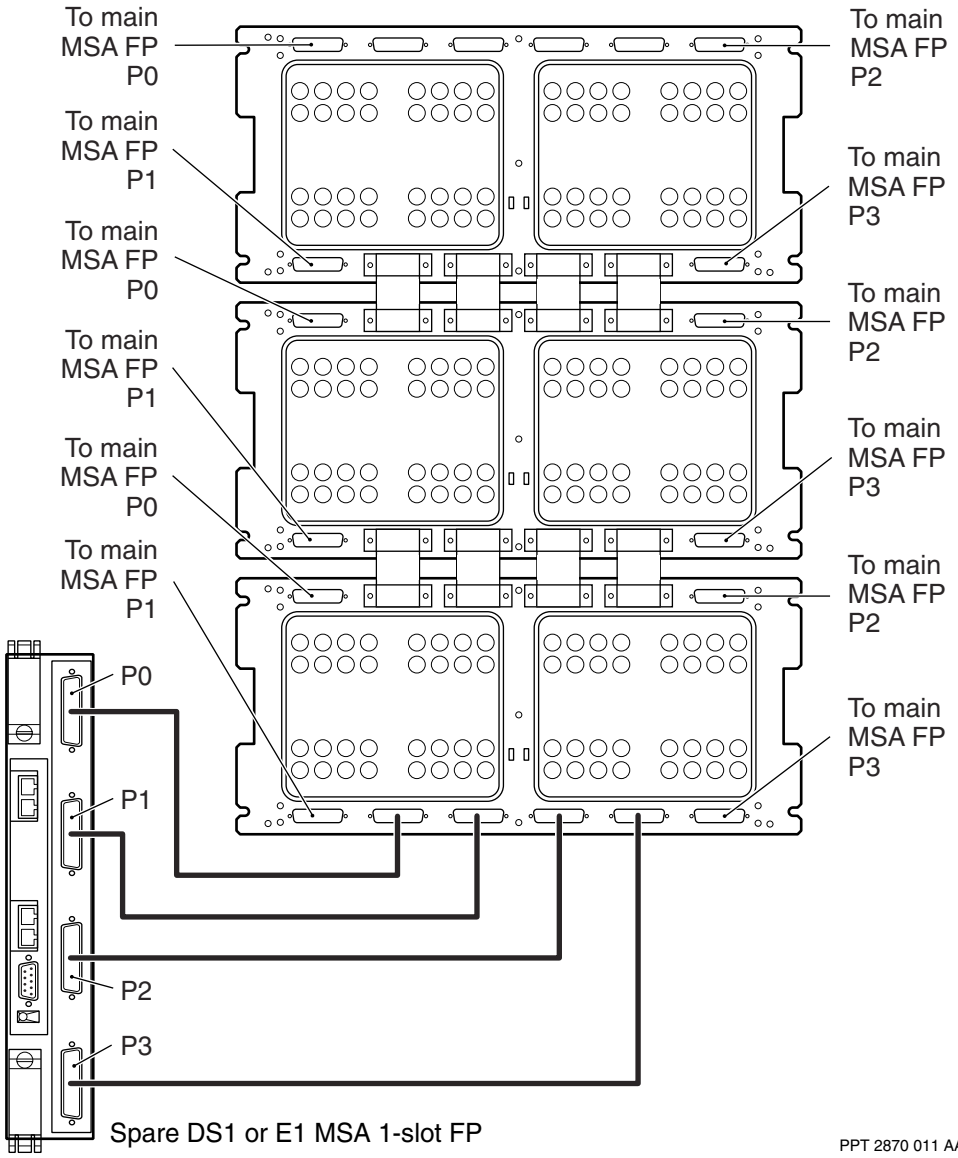
Unbalanced BNC sparing panel connections to 32-port E1 MSA 2-slot FPs and CPE



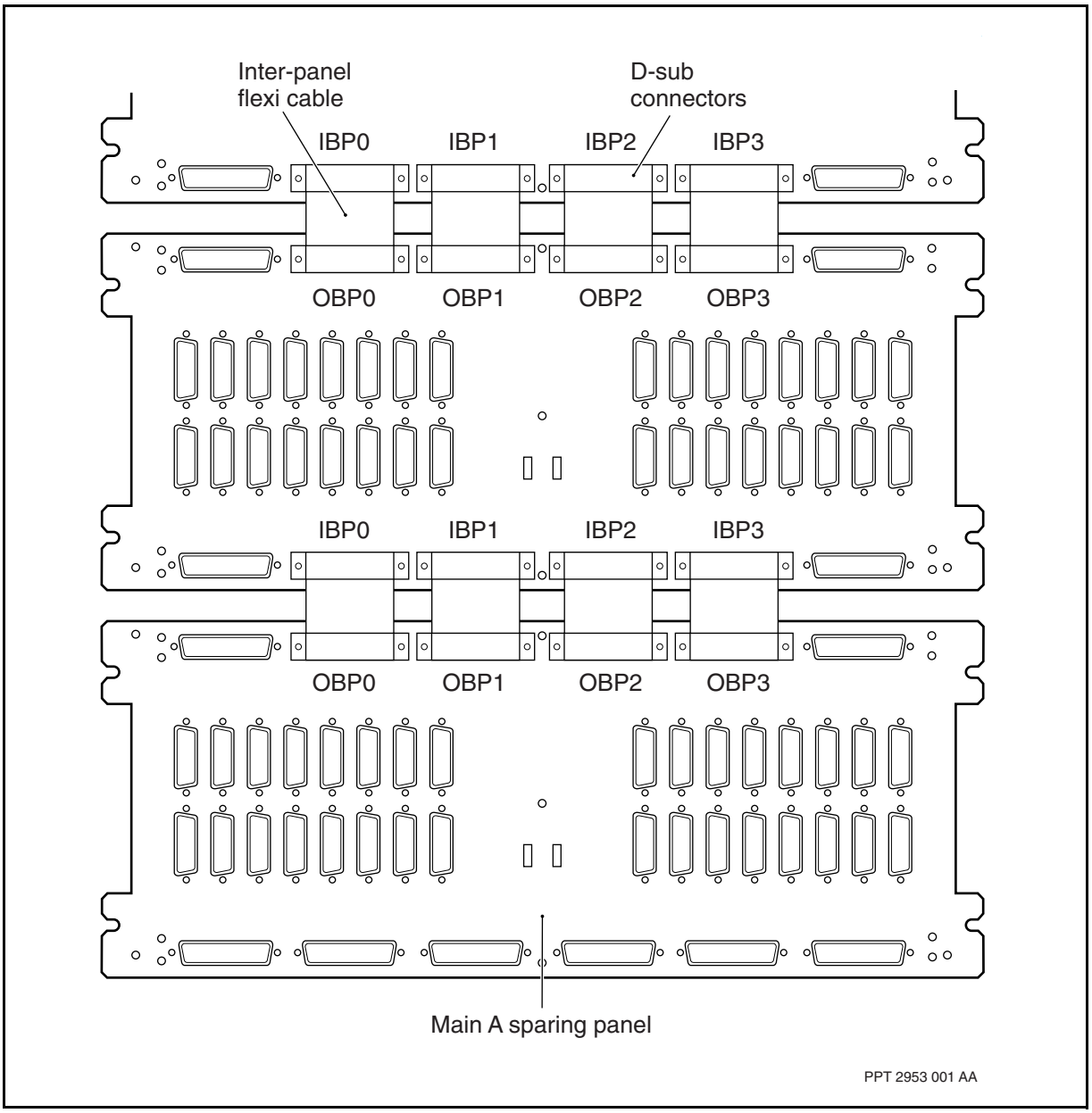
Unbalanced BNC sparing panel connections to a main 32-port E1 MSA 2-slot FP



Unbalanced BNC sparing panel one-for-n connections to a spare 32-port E1 MSA 2-slot FP



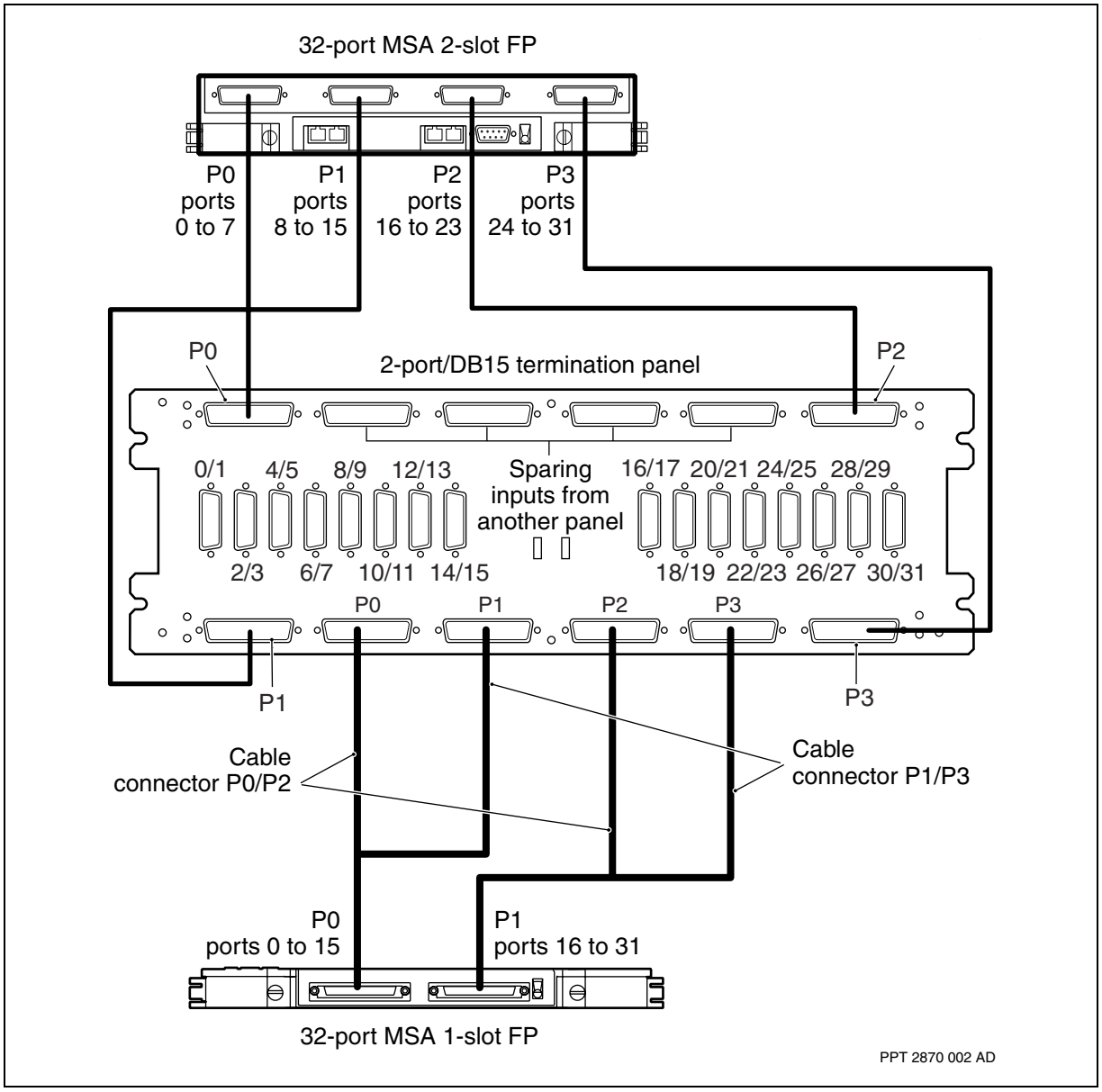
BNC and DB15 sparing panels one-for-n inter-panel flexi-cable connectors



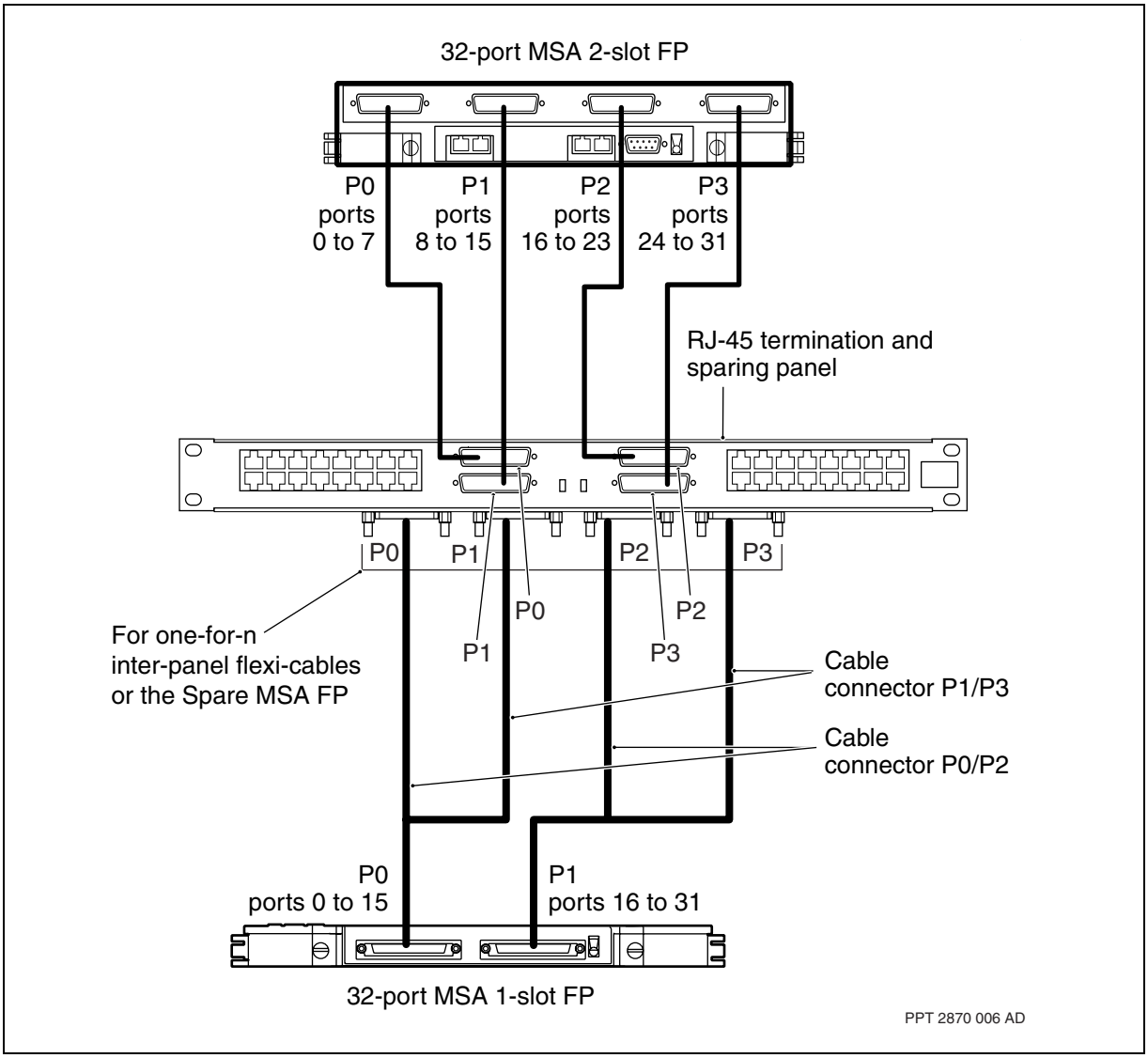
DS1 or E1 MSA 1-slot and 2-slot FPs sharing the same sparing panels

A 32-port DS1 MSA 1-slot FP can spare one or more of the equivalent 2-slot FPs, and vice versa. A 32-port E1 MSA 1-slot FP can spare one or more of the equivalent 2-slot FPs, and vice versa.The following figures show two exemplary cable connection configurations from sparing panels to one of each version of the MSA 32-port FPs.

2-port/DB15 sparing panel connections to a main DS1 or E1 2-slot FP and a spare 1-slot FP



RJ-45 sparing panel connections to a main DS1 or E1 2-slot FP and a spare 1-slot FP



DS1 or E1 MSA8 FP cable connections

The available sparing panels for the DS1 or E1 MSA8 FPs are identified in the description of the DS1 and E1 FPs in NN10600-170 *Nortel Multiservice Switch 7400 Hardware Description*.

For cabling between an MSA8 FP and a termination panel, you use MSA8 single connector cables NTPS30, NTPS31, NTPS34, or NTPS35. These cables have only one connector on each end. One cable goes from MSA8 P0 to fanout panel P0 for the eight ports and one cable goes from MSA8 P1 to fanout panel P3 for power and signaling. Fanout panel P1 and P2 are not used.

The descriptions of all FP cable assemblies are found in NN10600-170 *Nortel Multiservice Switch 7400 Hardware Description*. The installation procedures are found in NN10600-175 *Nortel Multiservice Switch 7400 Hardware Installation, Maintenance, and Upgrade*.

The method of supplying power to an MSA8 sparing panel is described in the section about power for a sparing panel in NN10600-170 *Nortel Multiservice Switch 7400 Hardware Description*.

Refer to the following sections for more information on DS1 or E1 MSA8 FP cable connections:

- Mapping between DS1 or E1 MSA8 FP and sparing panel connectors (page 71)
- DS1 or E1 MSA8 FP cabling to termination or sparing panels (page 72)

Mapping between DS1 or E1 MSA8 FP and sparing panel connectors

The table Mapping between a DS1 or E1 MSA8 FP and sparing panel connectors (page 71) summarizes the sparing panel to FP cable connections when using the MSA8 single connector cables.

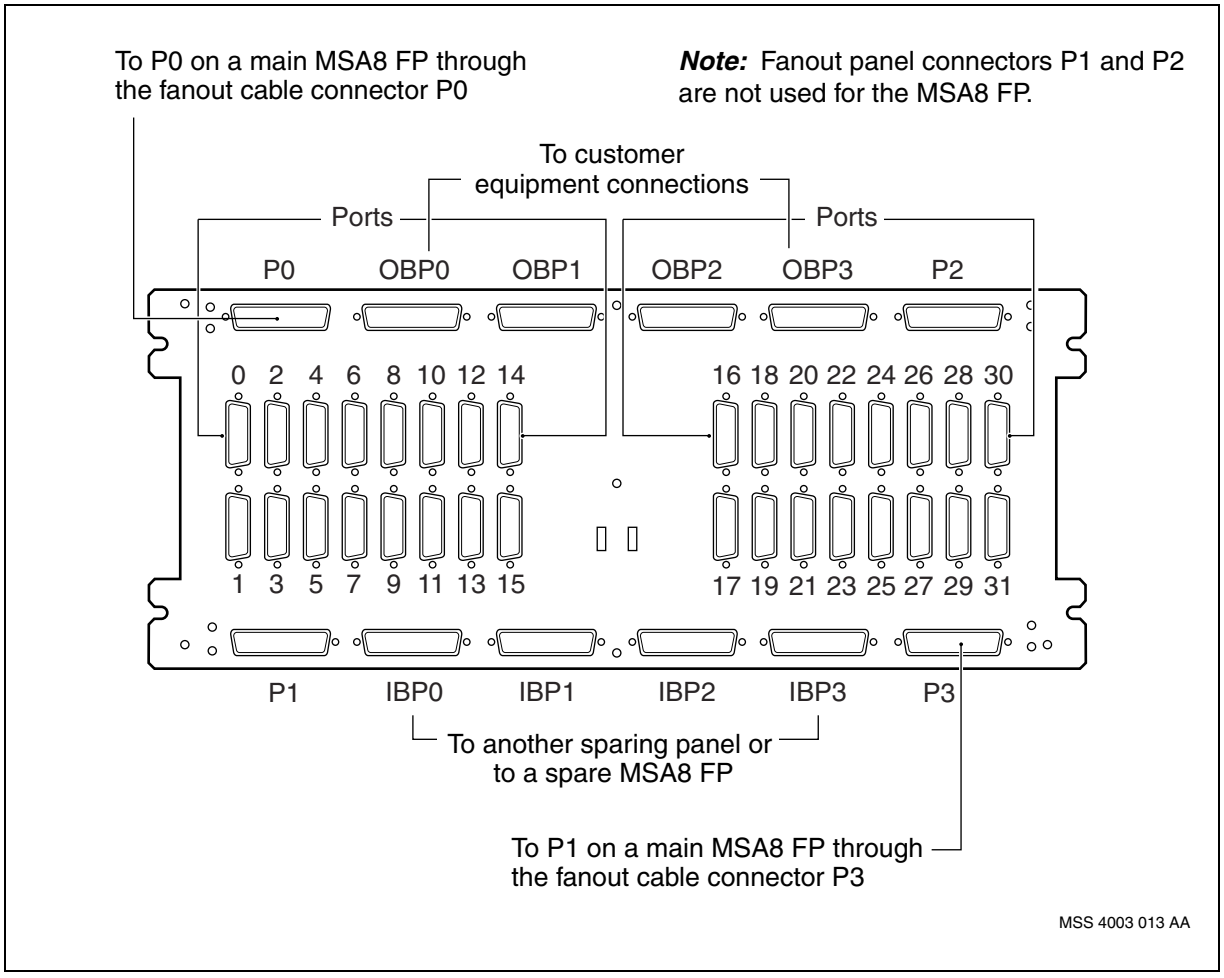
Mapping between a DS1 or E1 MSA8 FP and sparing panel connectors

Termination panel name	Termination panel PEC	Termination panel faceplate connector	68-pin cable connector	MSA8 FP faceplate connector
1-port/DB15 for DS1 or E1	NTY197	P0 (user ports 0 to 7)	P0	P0
		P3 (user ports 24 to 31)	P1	P1
RJ-45 for DS1 or E1	NTJS95	P0 (user ports 0 to 7)	P0	P0
		P3 (user ports 24 to 31)	P1	P1
unbalanced BNC for E1 only	NTY196	P0 (user ports 0 to 7)	P0	P0
		P3 (user ports 24 to 31)	P1	P1

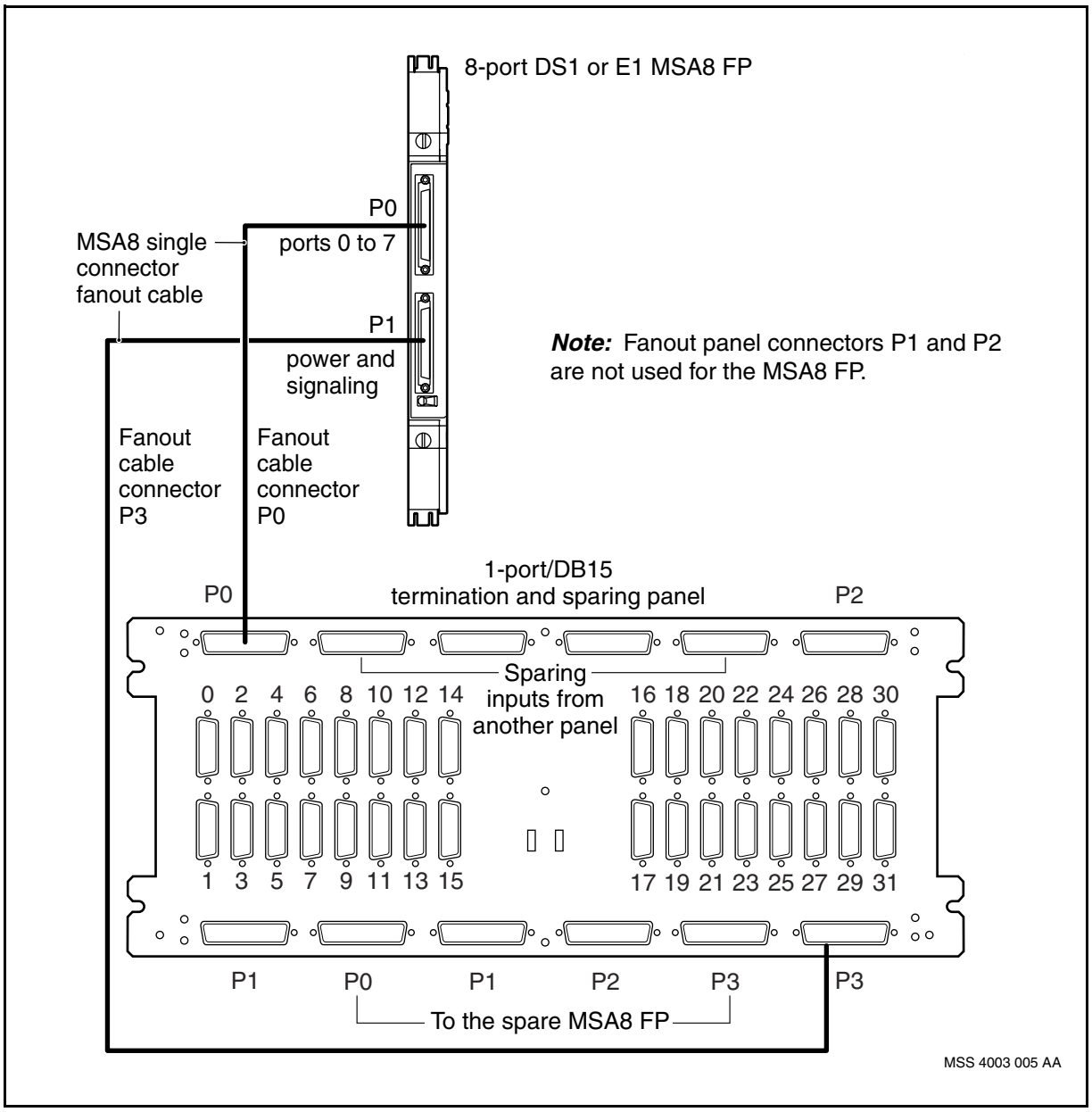
DS1 or E1 MSA8 FP cabling to termination or sparing panels

The following figures show the cable connections, using the MSA8 single connector cable, between a DS1 or E1 MSA8 FP and the various types of termination and sparing panels.

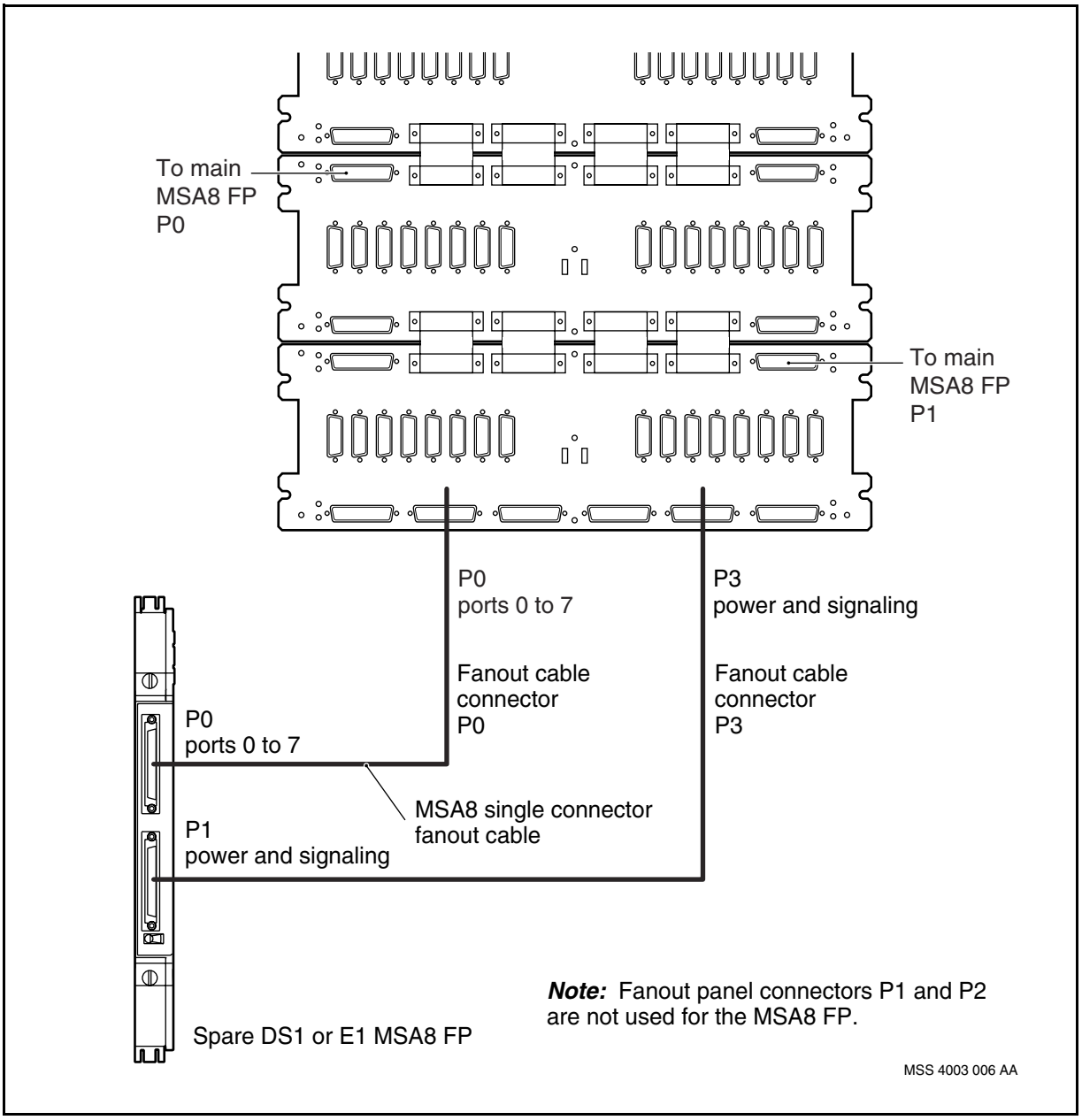
1-port/DB15 sparing panel connections to 8-port DS1 or E1 MSA FPs and CPE



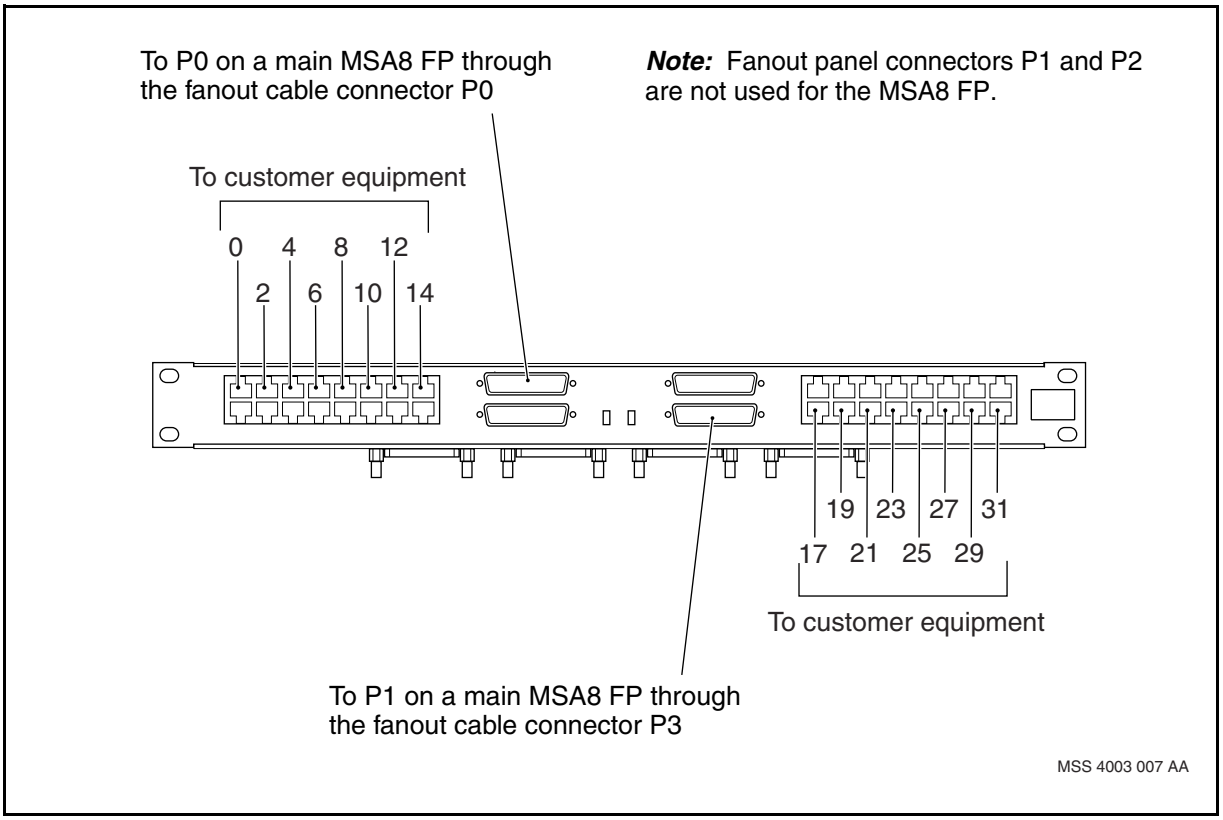
1-port/DB15 sparing panel connections to a main 8-port DS1 or E1 MSA 1-slot FP



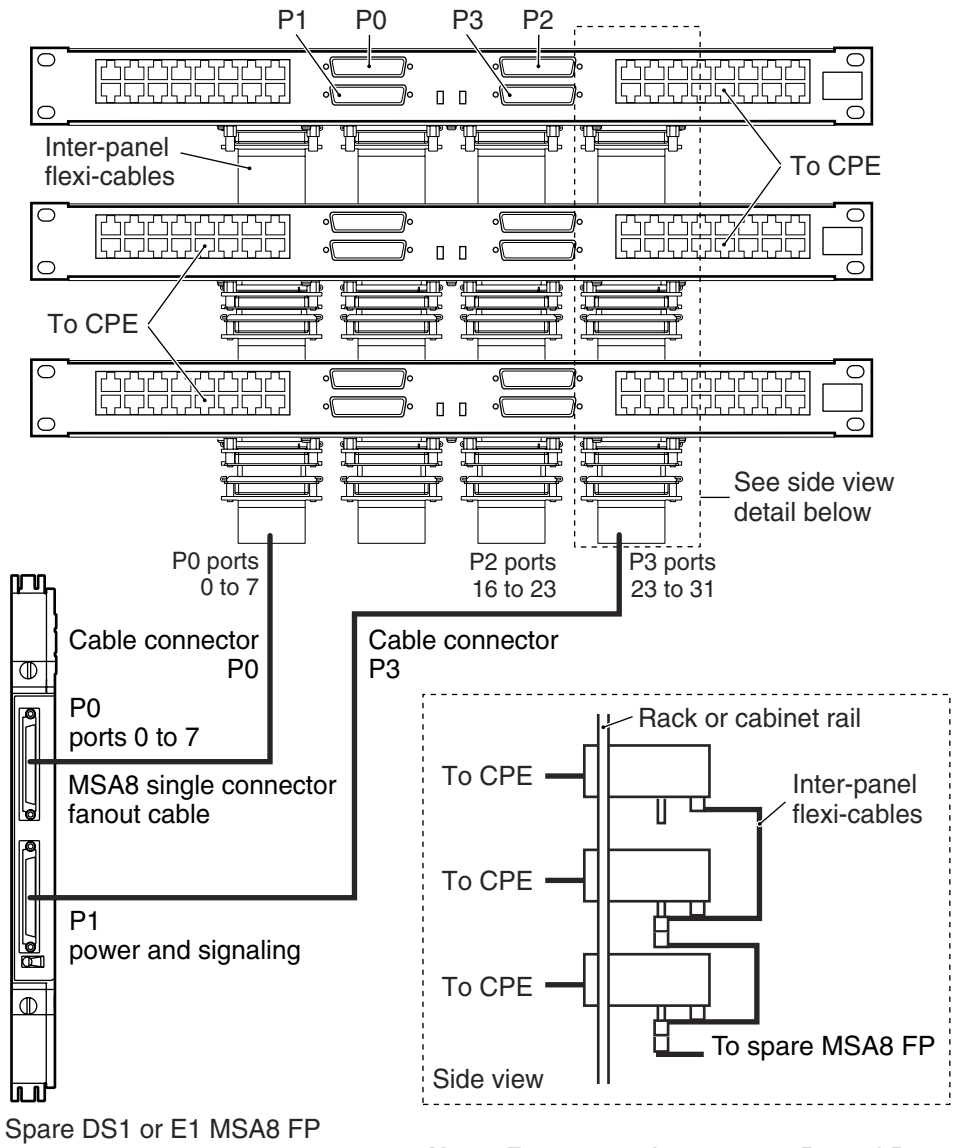
1-port/DB15 sparing panel one-for-n connections to a spare 8-port DS1 or E1 MSA FP



RJ-45 sparing panel connections to 8-port DS1 or E1 MSA FPs and CPE



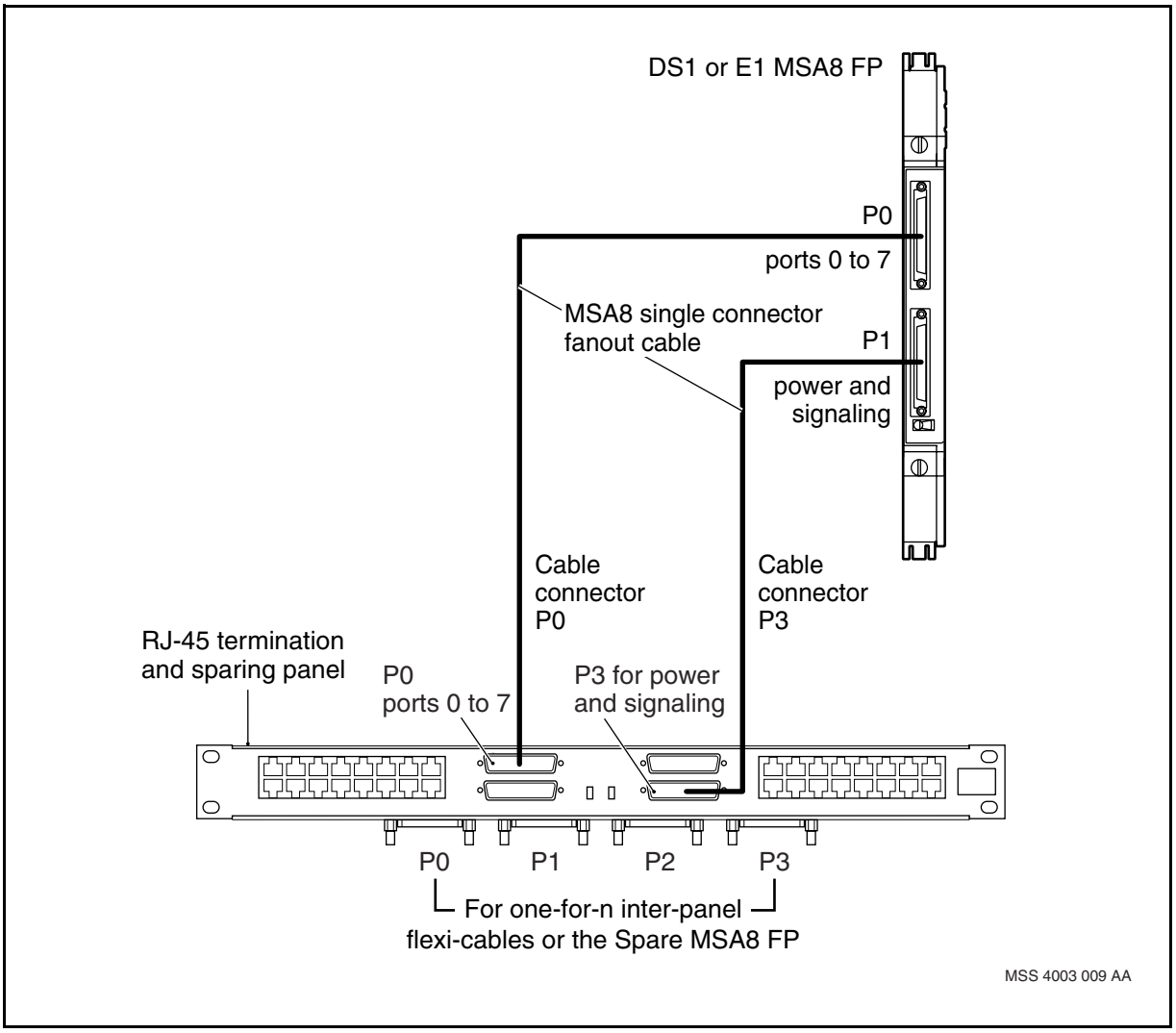
RJ-45 sparing panel one-for-n connections to a spare 8-port DS1 or E1 MSA FP



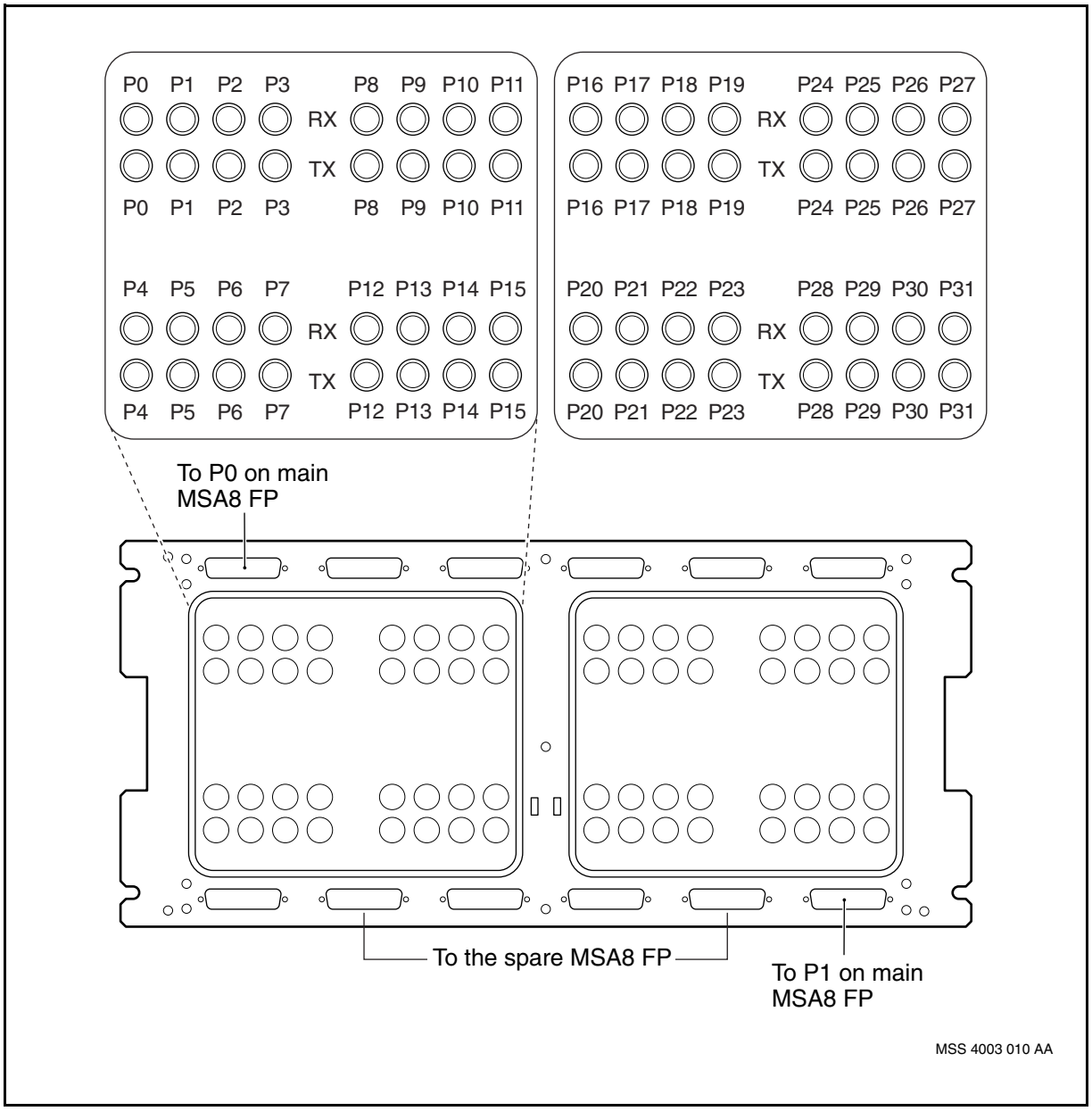
Note: Fanout panel connectors P1 and P2 are not used for the MSA8 FP.

MSS 4003 008 AA

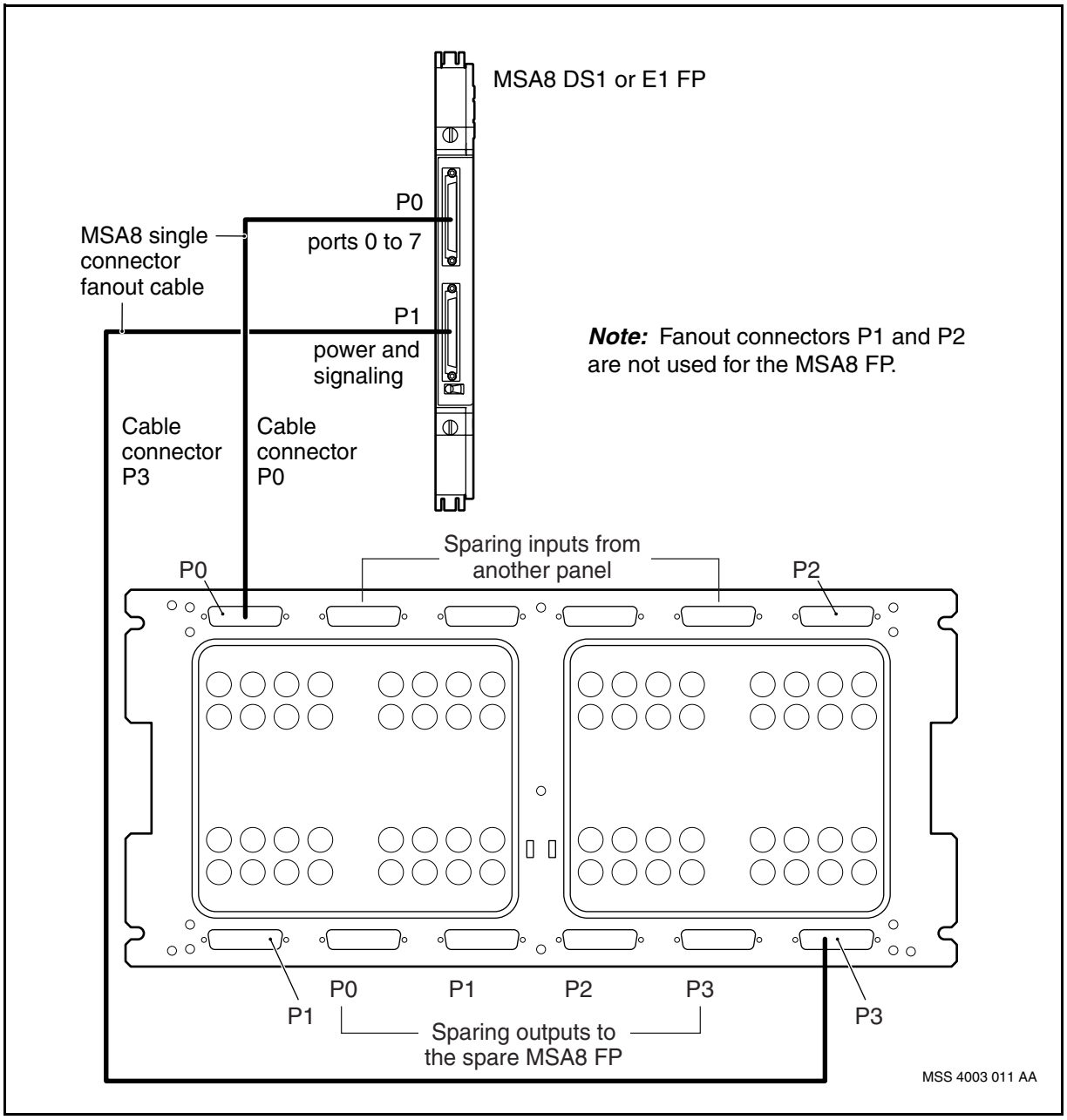
RJ-45 sparing panel connections to a main 8-port DS1 or E1 MSA FP



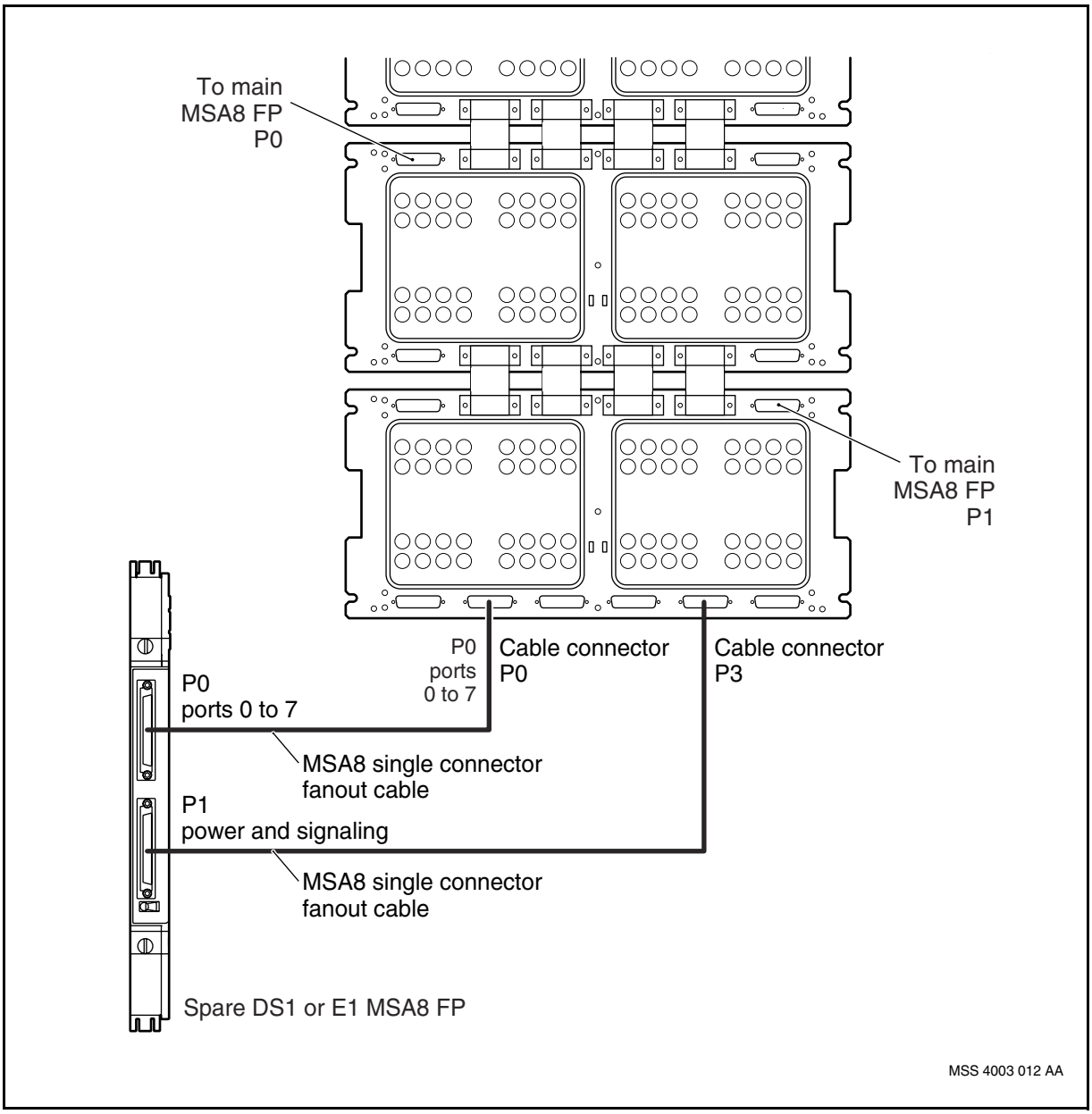
Unbalanced BNC sparing panel connections to E1 MSA FPs and CPE



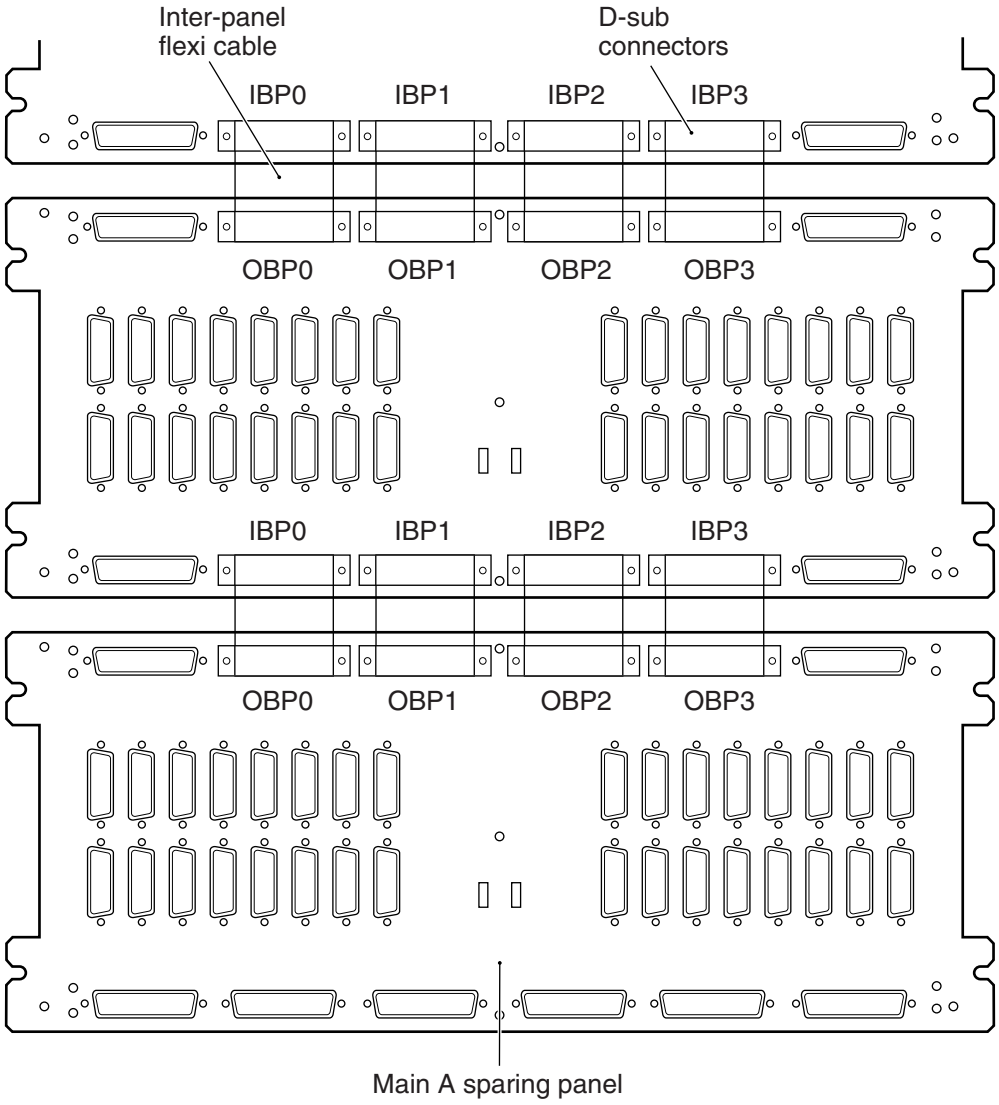
Unbalanced BNC sparing panel connections to a main 8-port E1 MSA FP



Unbalanced BNC sparing panel one-for-n connections to a spare E1 MSA8 FP



BNC and DB15 sparing panels one-for-n inter-panel flexi-cable connectors



DS1C FP cable connections

CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

Only the C1 connector on the FP supplies power for the termination panel. You must install a cable from C1 on either the main or spare FP to the termination panel, even if the ports associated with connector C1 are not in use.

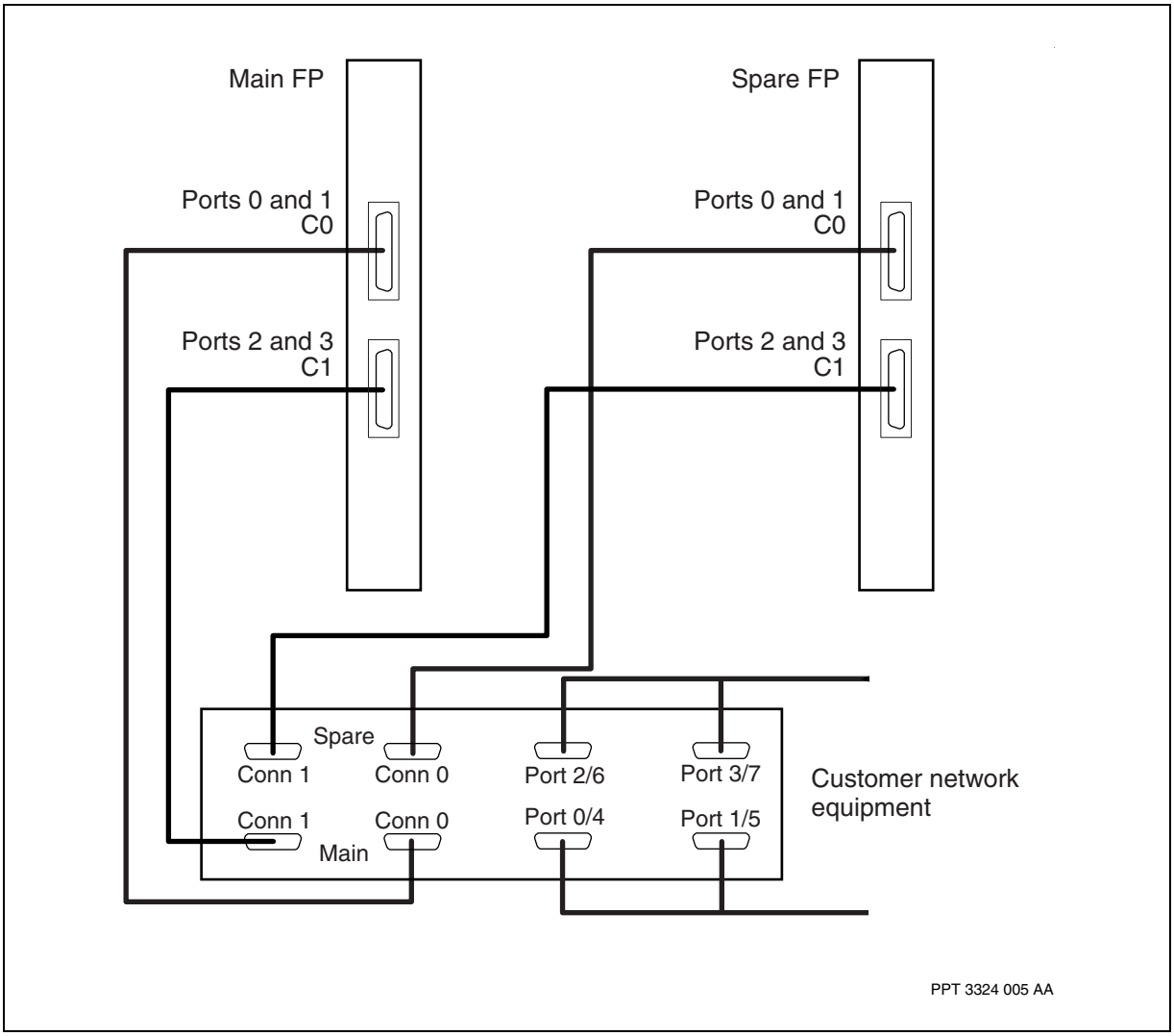
Mapping between a DS1C FP and termination panel connectors

This table summarizes the mapping between the connectors for the DS1C FP and its termination panel.

Mapping between a DS1C FP and termination panel connectors

Faceplate connector	Termination panel port number
0	0 and 1
1	2 and 3

Connections for a DS1C FP

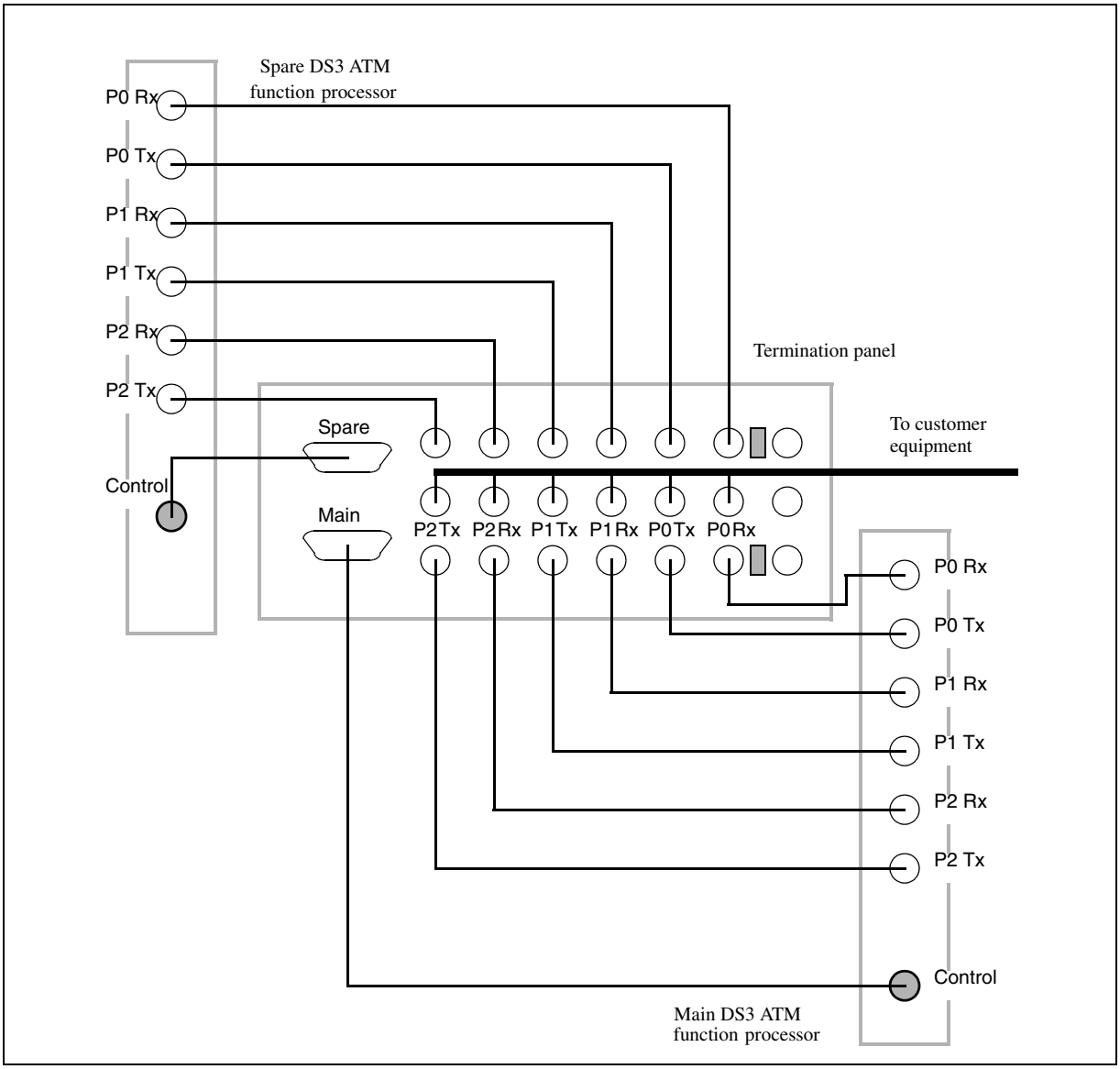


DS3 ATM FP cable connections

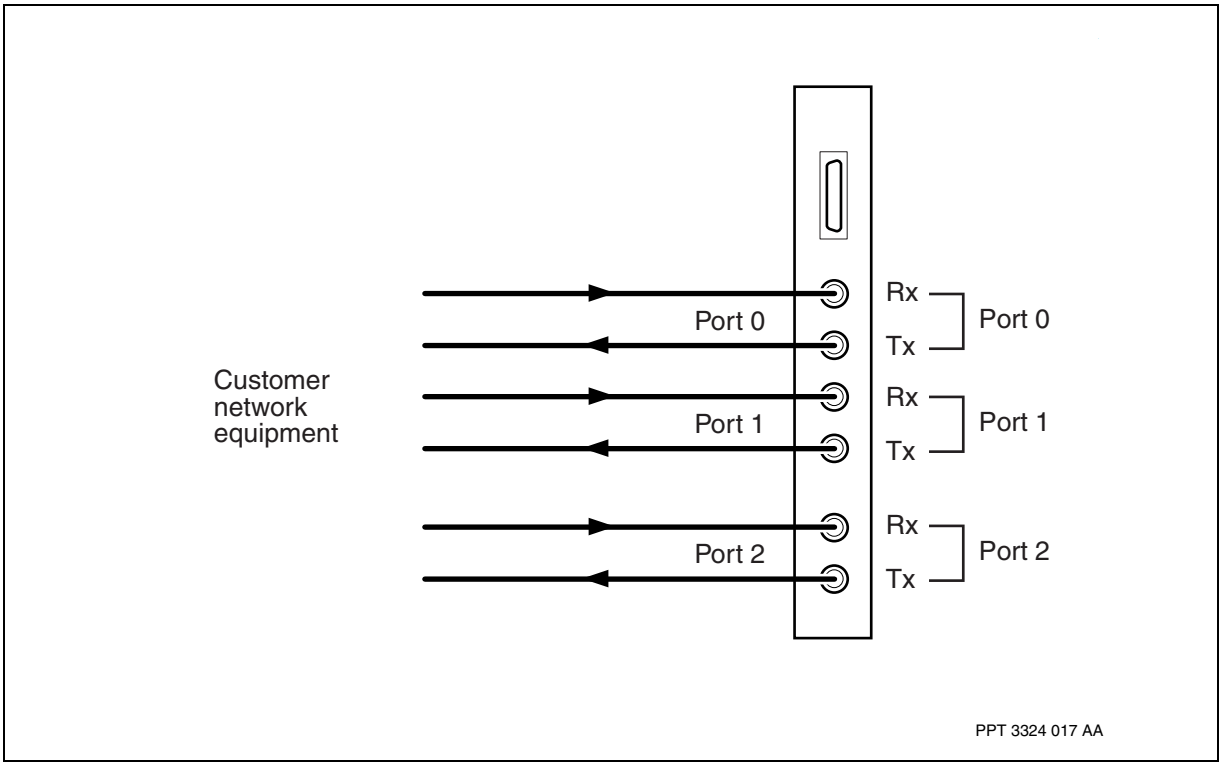
CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

The three ports on the right side of the DS3 termination panel are used for monitoring transmit output. This allows you to connect third-party equipment for testing and monitoring purposes.

Connections for DS3 ATM FP



Customer equipment connections for DS3 ATM FP

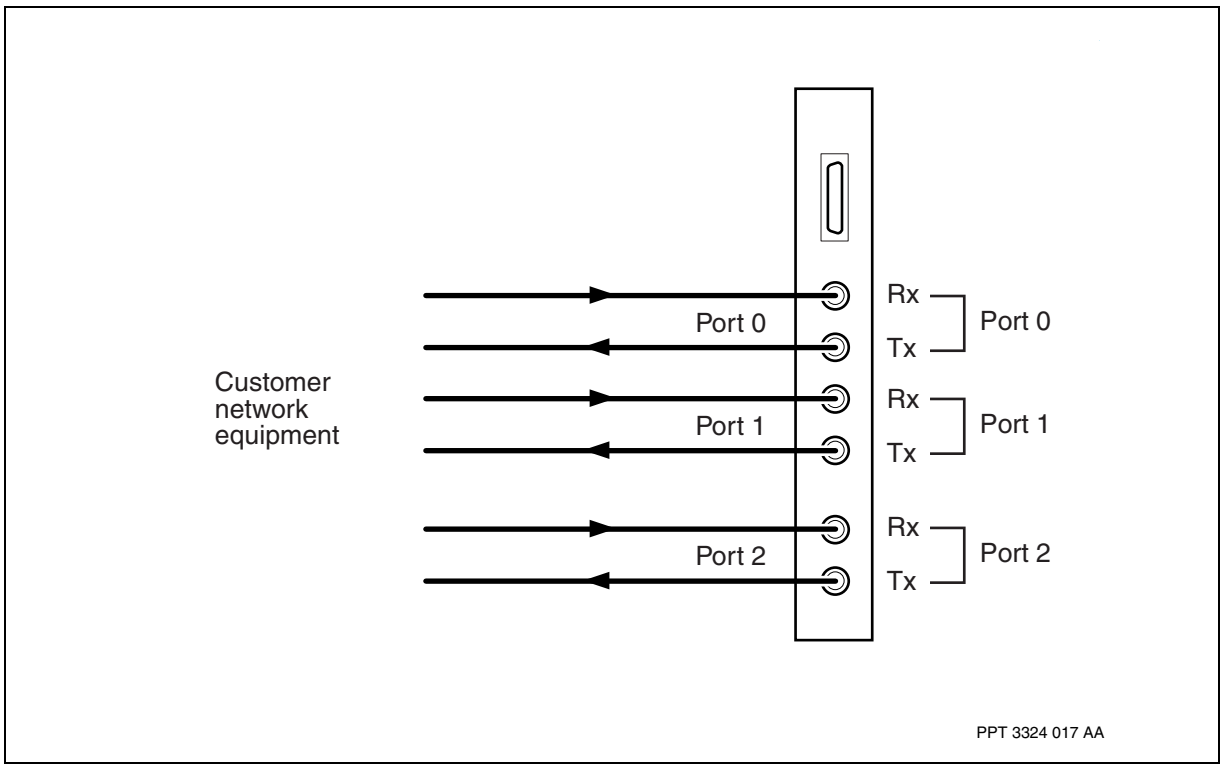


DS3 ATM IP FP cable connections

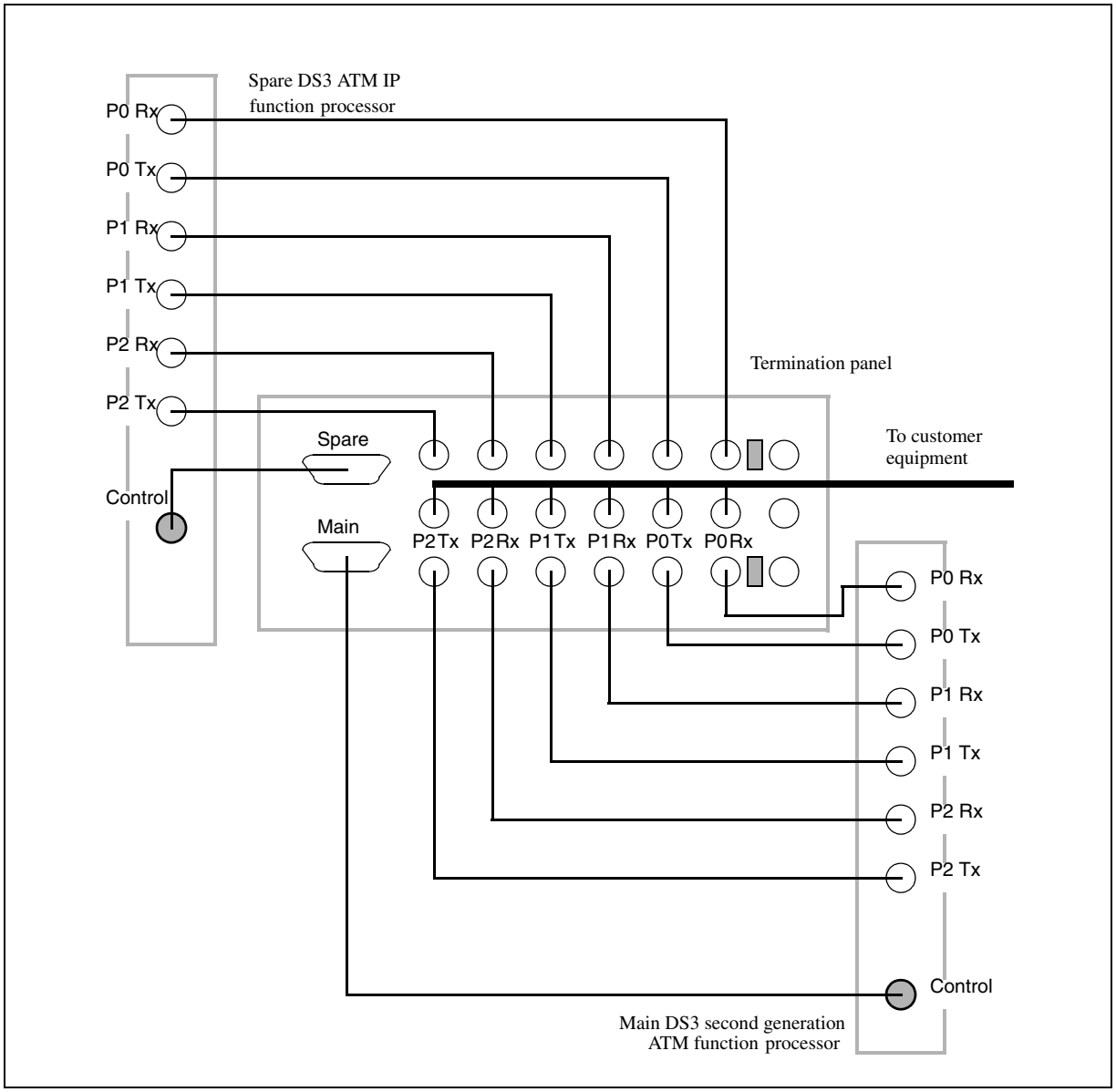
CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

The three ports on the right side of the DS3 termination panel are used for monitoring transmit output. This allows you to connect third-party equipment for testing and monitoring purposes.

Customer equipment connections for DS3 ATM IP



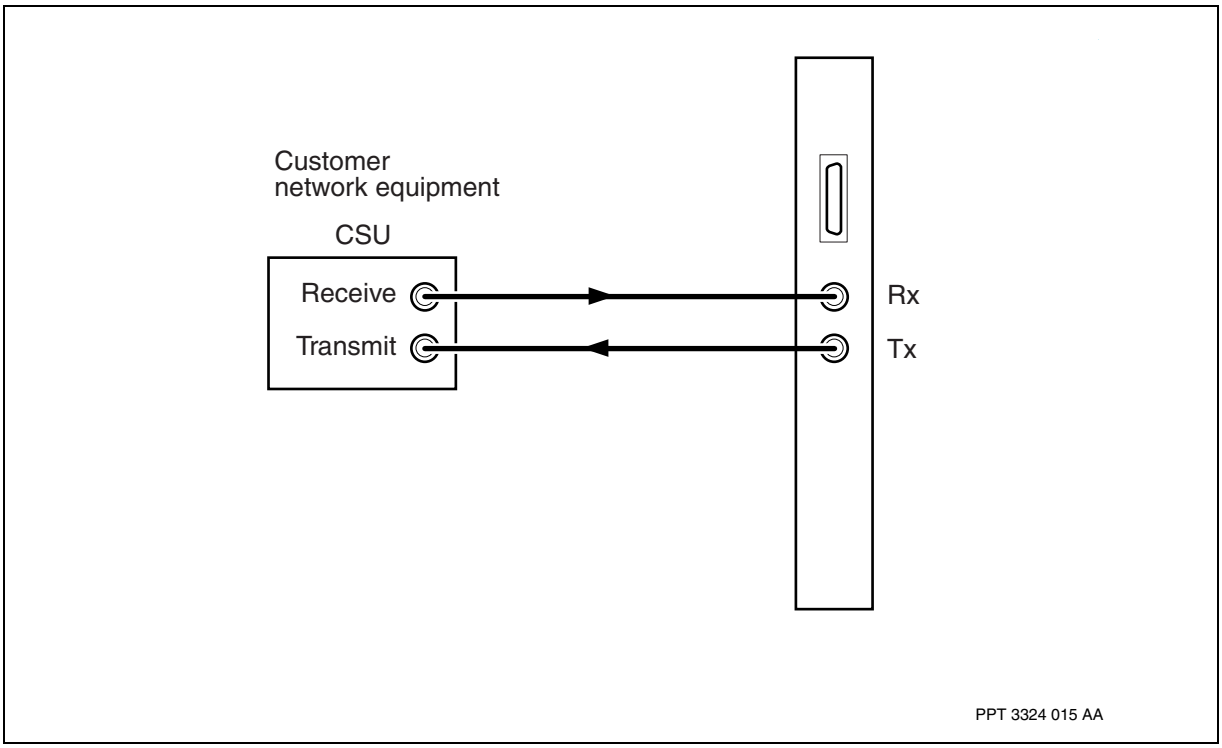
Connections for DS3 ATM IP



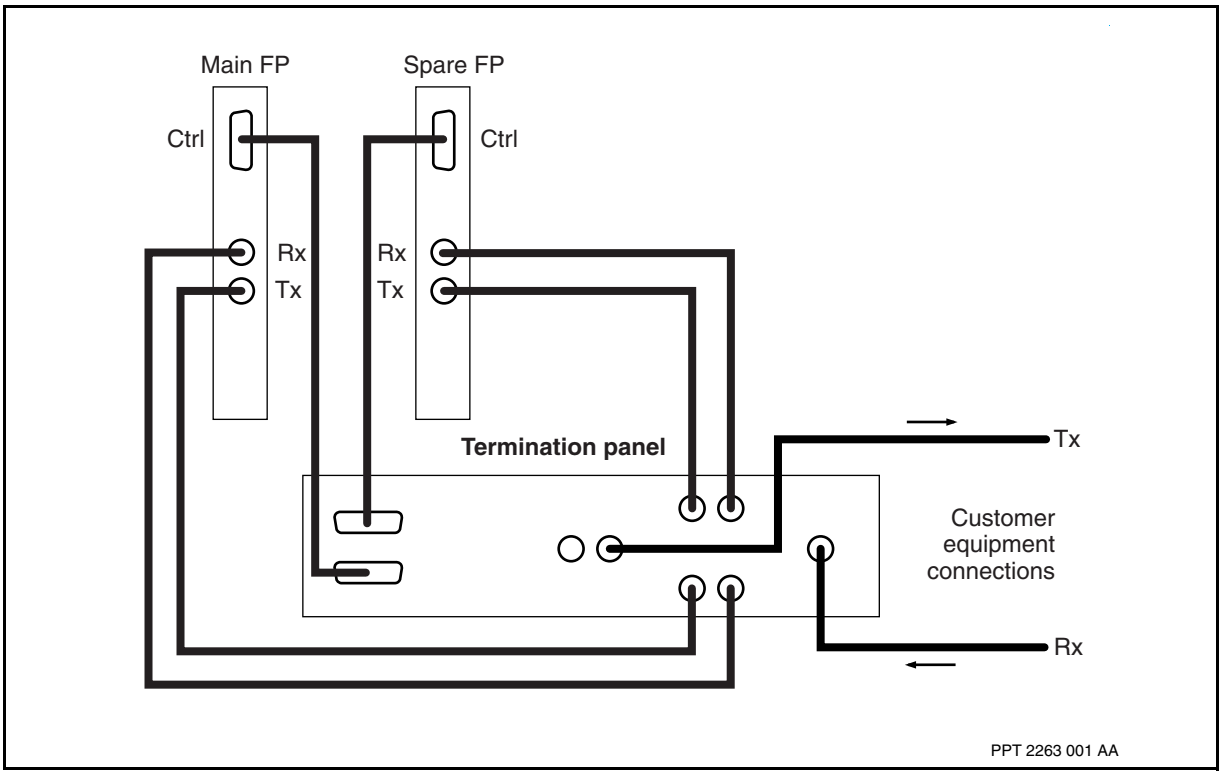
DS3 cable connections

CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

Customer equipment connections to a DS3 FP



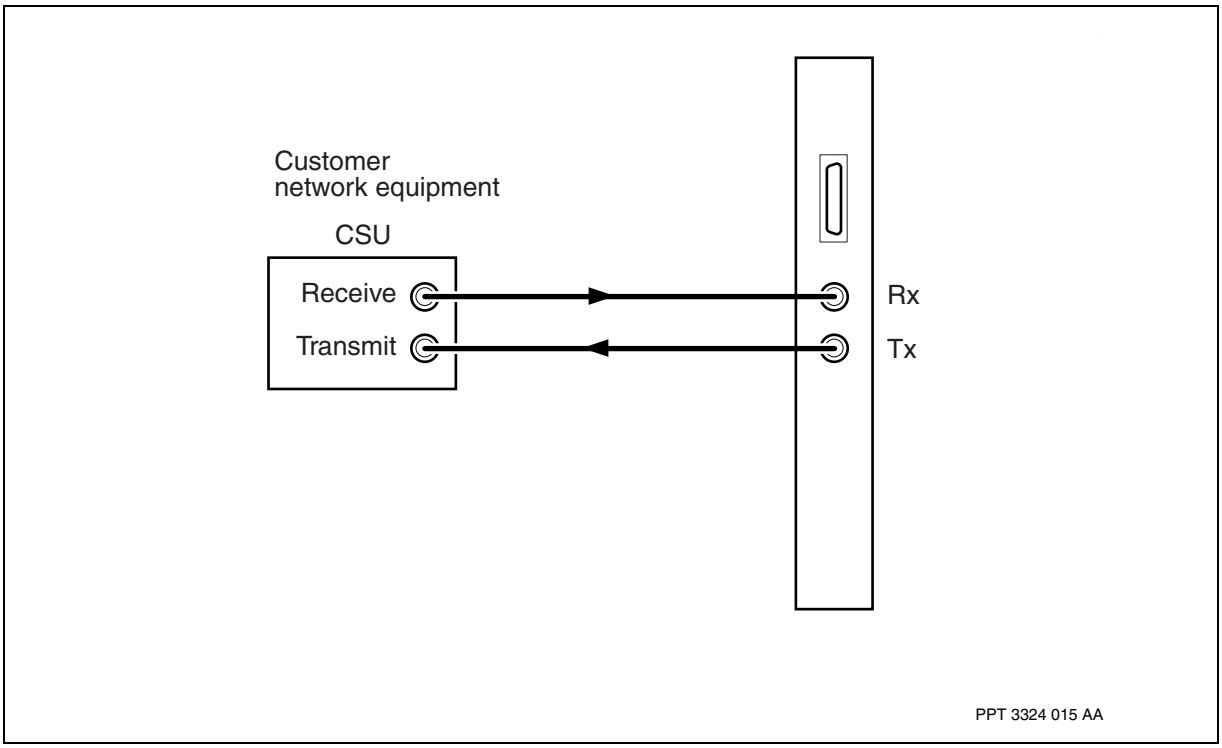
Customer equipment connections to a DS3 termination panel



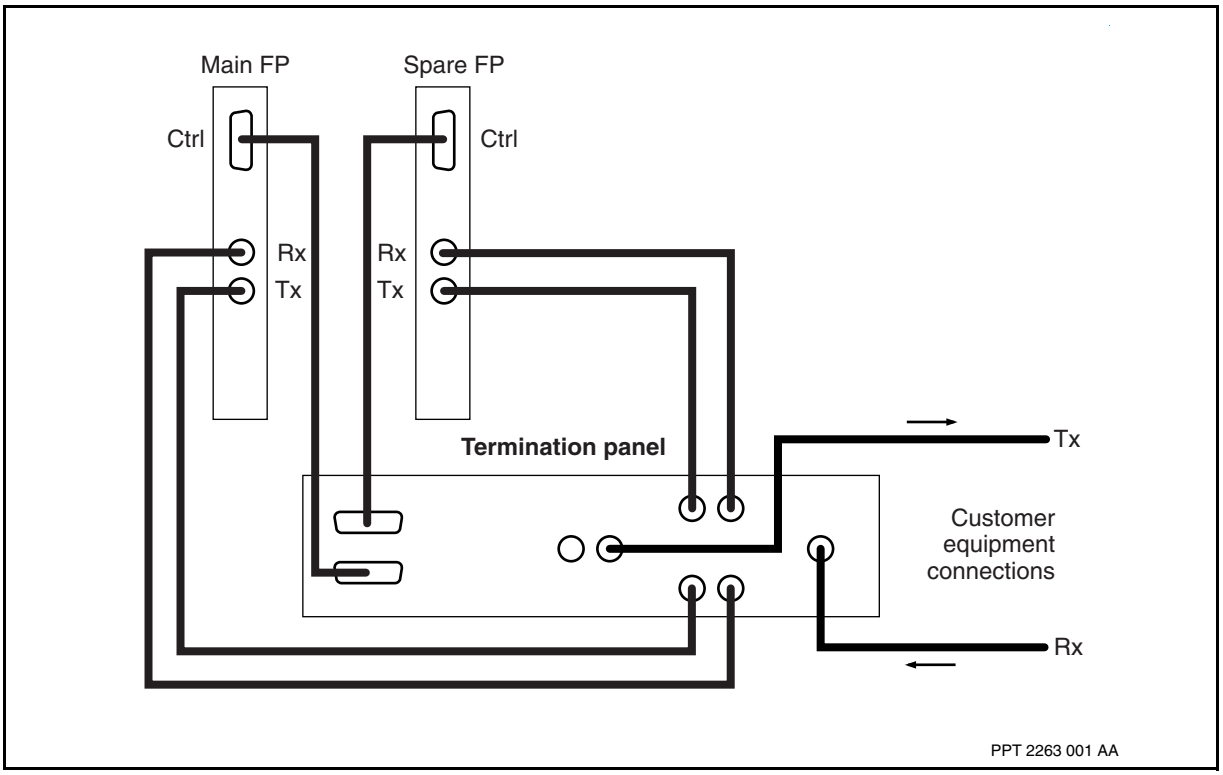
DS3C cable connections

CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination or sparing panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination or sparing panel dropping all ports on the spare FP.

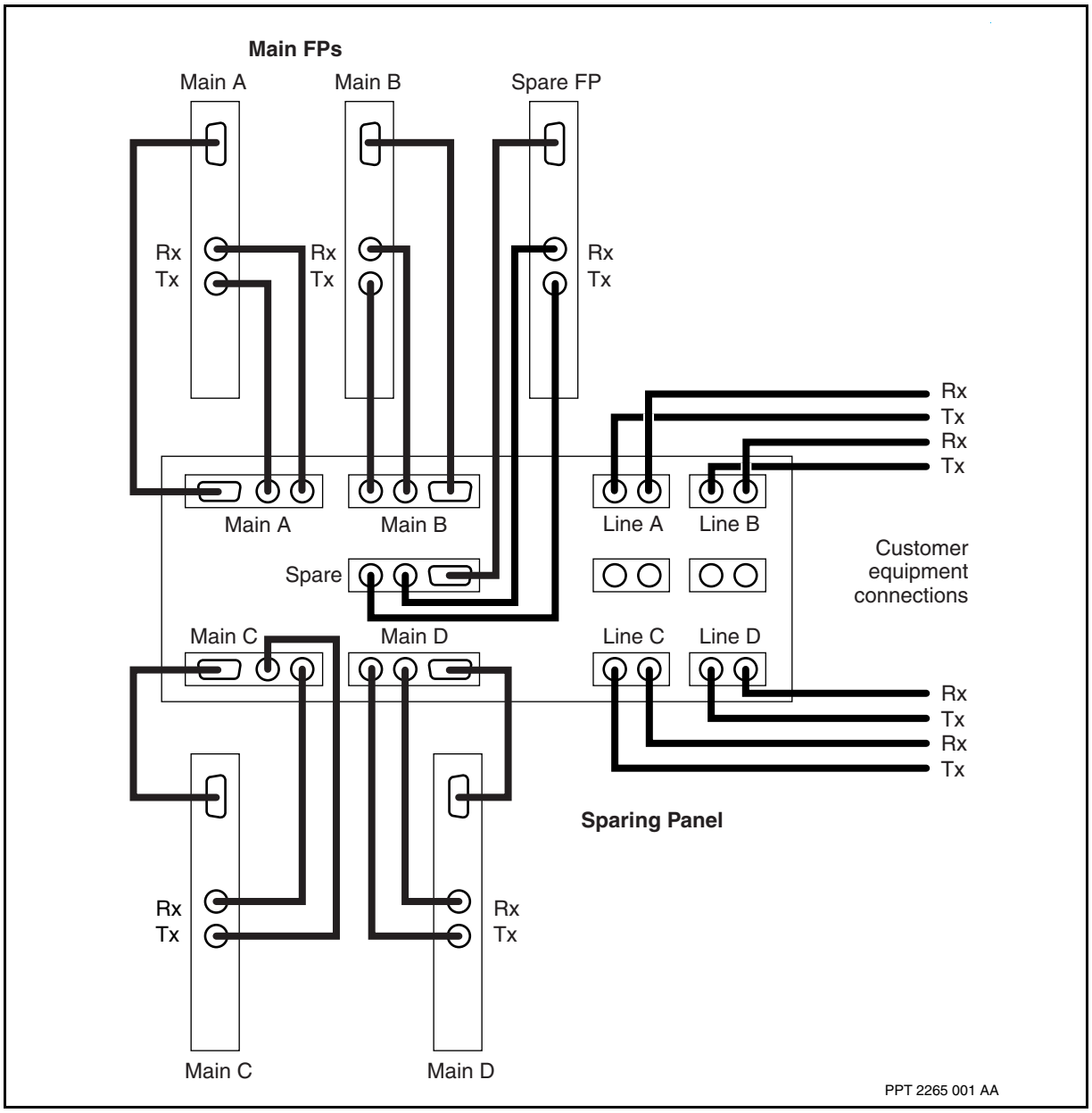
Customer equipment connections to a DS3C FP



Connections for a DS3C FP—one-for-one sparing

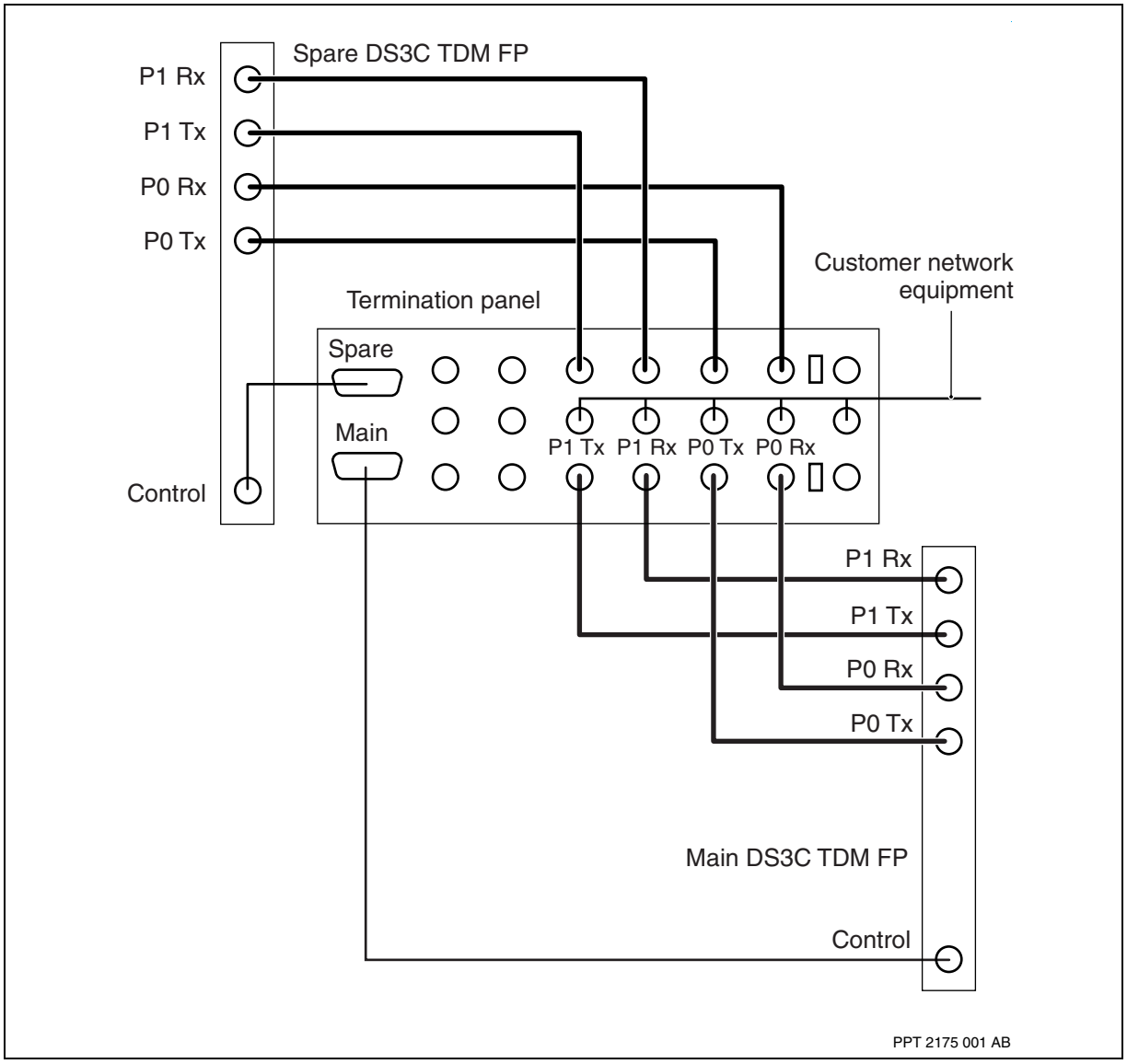


Connections for a DS3C FP—one-for-n sparing



DS3C TDM FP cable connections

Connections for a DS3C TDM FP



E1 AAL1 FP cable connections

CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

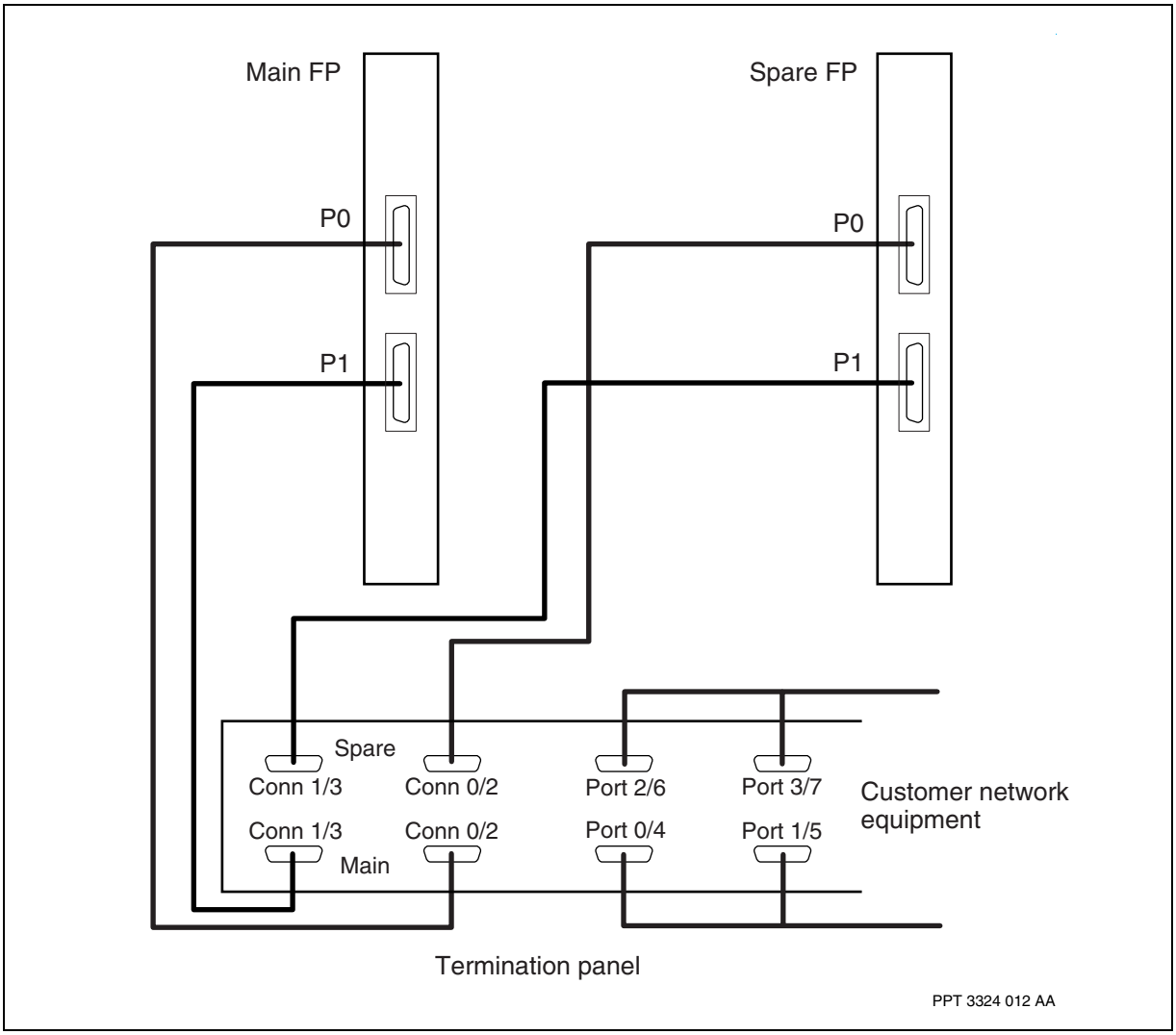
Mapping between an E1 AAL1 FP and termination panel connectors

This table summarizes the mapping between the connectors for the E1 AAL1 FP and its termination panel.

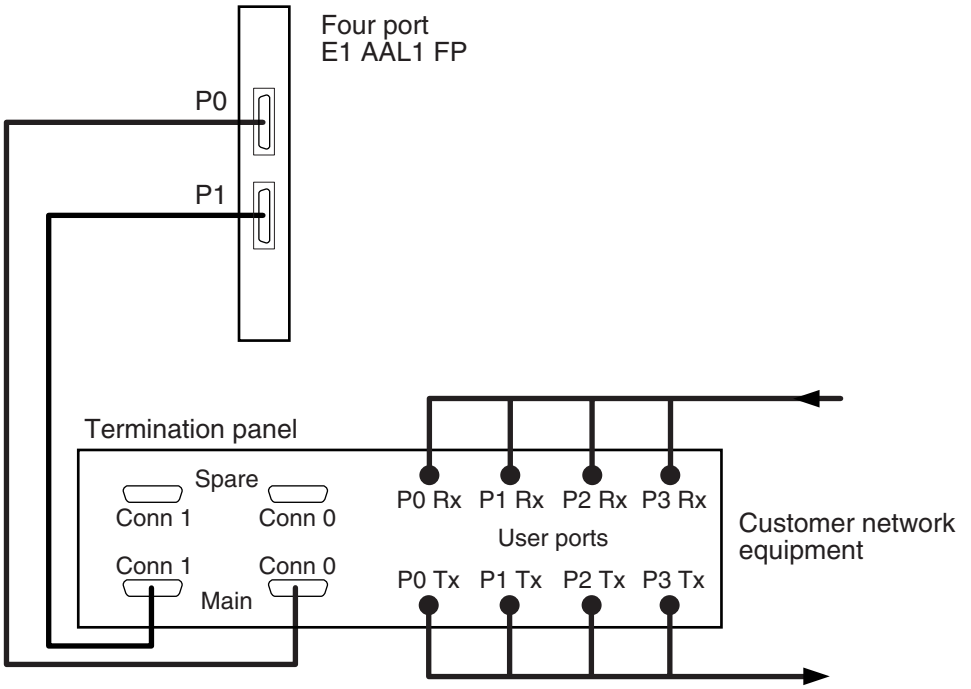
Mapping between an E1 AAL1 FP and termination panel connectors

Type of termination panel	Faceplate connector	Termination panel port number
Balanced E1 AAL1	0	0 and 1
	1	2 and 3
Unbalanced E1 AAL1	0	0 and 1 (TX and RX)
	1	2 and 3 (TX and RX)

Connections for an E1 AAL1 FP to a balanced termination panel



Connections for an E1 AAL1 FP to an unbalanced termination panel



E1C FP cable connections

CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

The C1 connector on the FP supplies power to the termination panel. You must connect a cable between the C1 connector from either the main or spare FPs to the termination panel. Do so even if the ports associated with connector C1 are not in use.

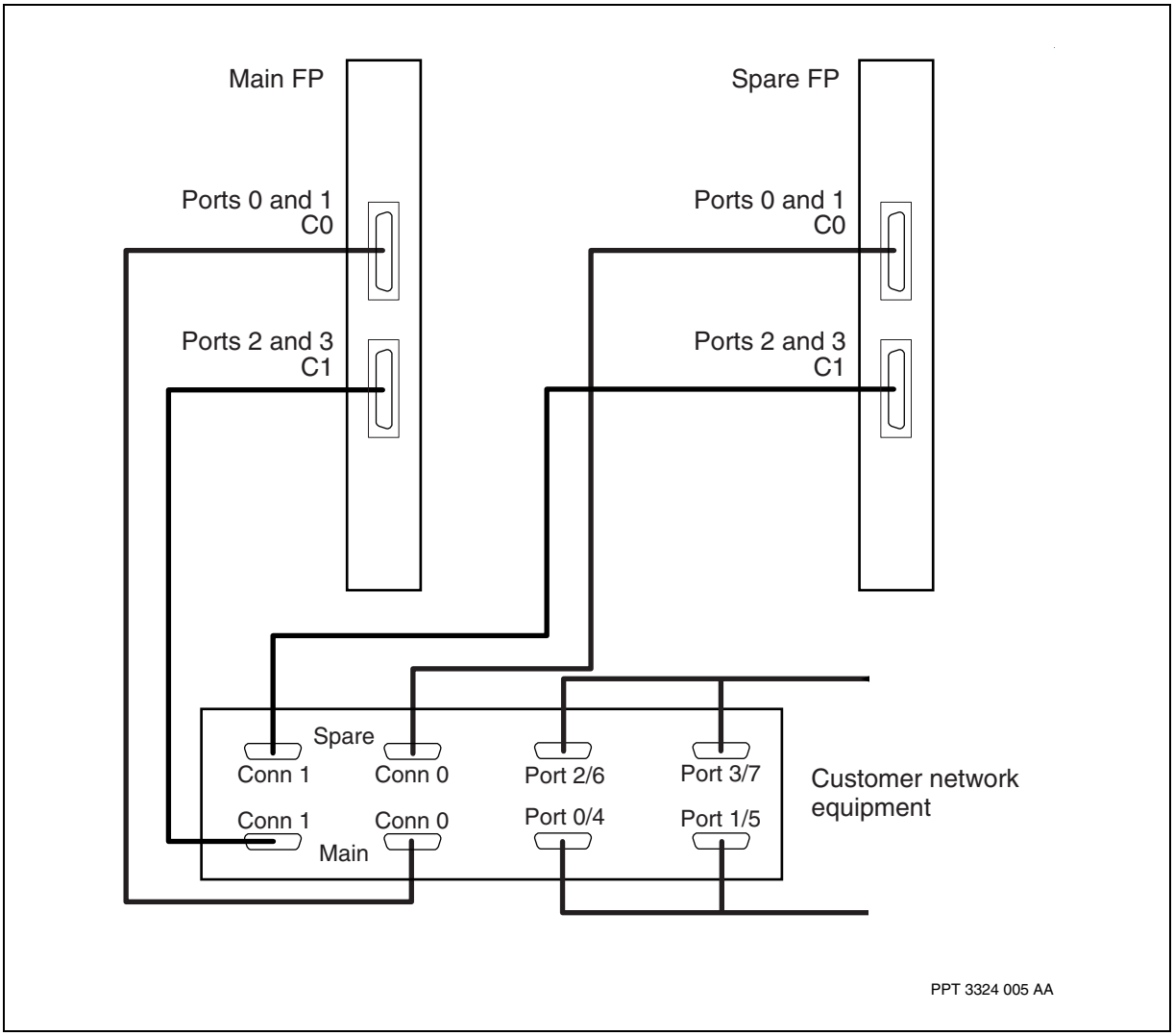
Mapping between an E1C FP and termination panel connectors

This table summarizes the mapping between the connectors for the E1C FP and its termination panel.

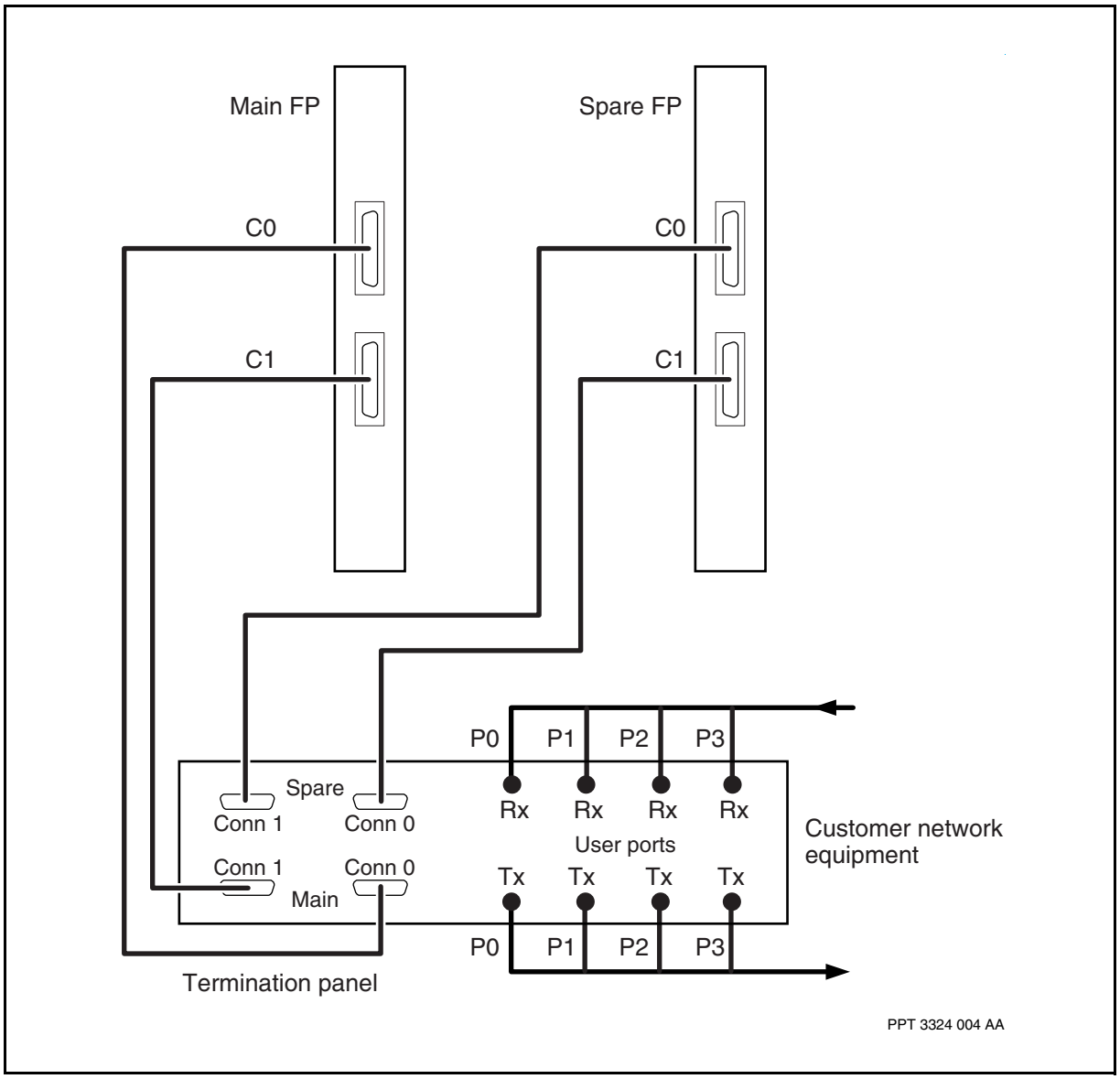
Mapping between an E1C FP and termination panel connectors

Function processor	Faceplate connector	Termination panel port number
Balanced E1C	0	0 and 1
	1	2 and 3
Unbalanced E1C	0	0 and 1 (TX and RX)
	1	2 and 3 (TX and RX)

Connections for an E1C FP—balanced termination panel



Connections for an E1C FP—unbalanced termination panel

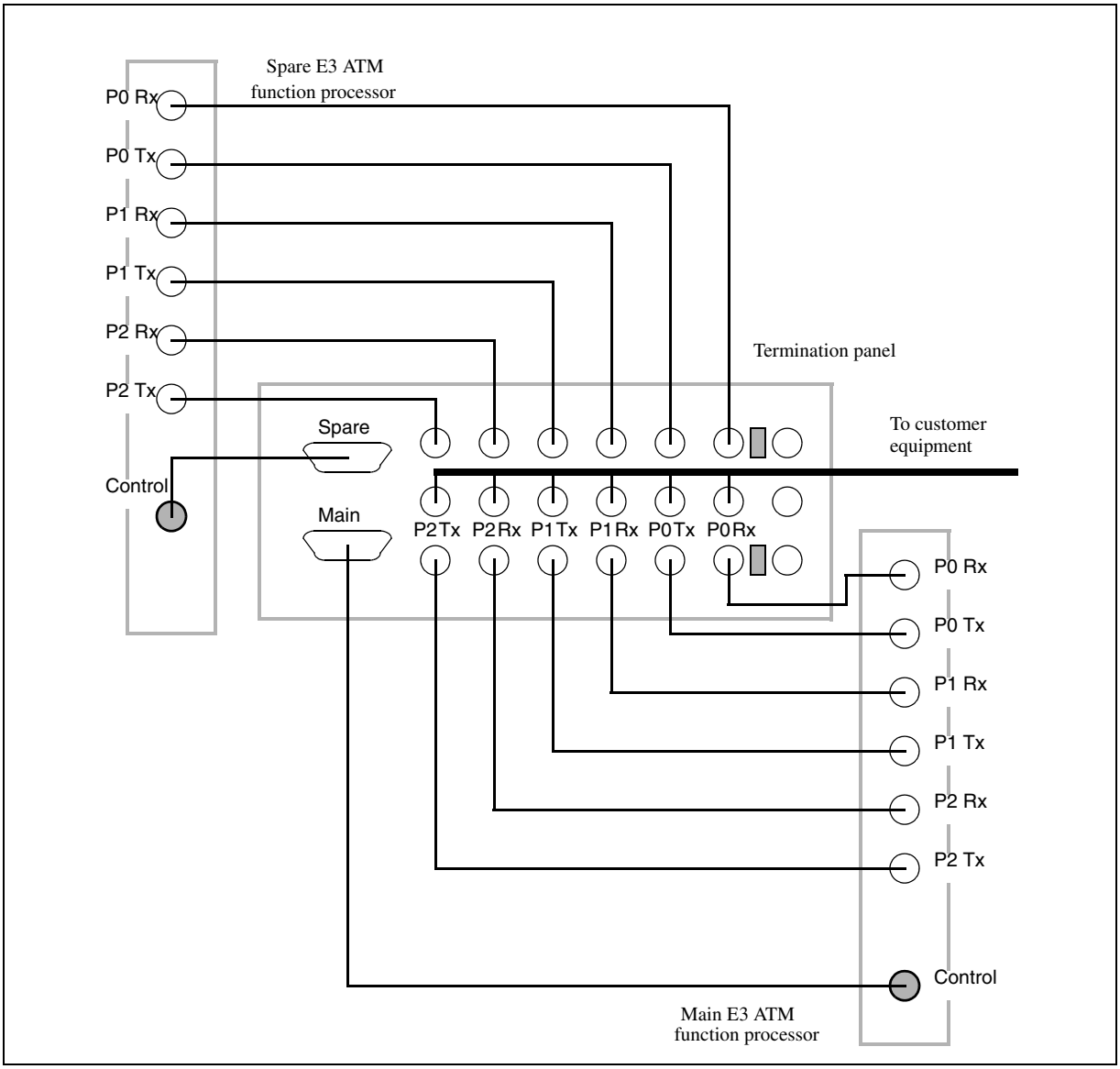


E3 ATM FP cable connections

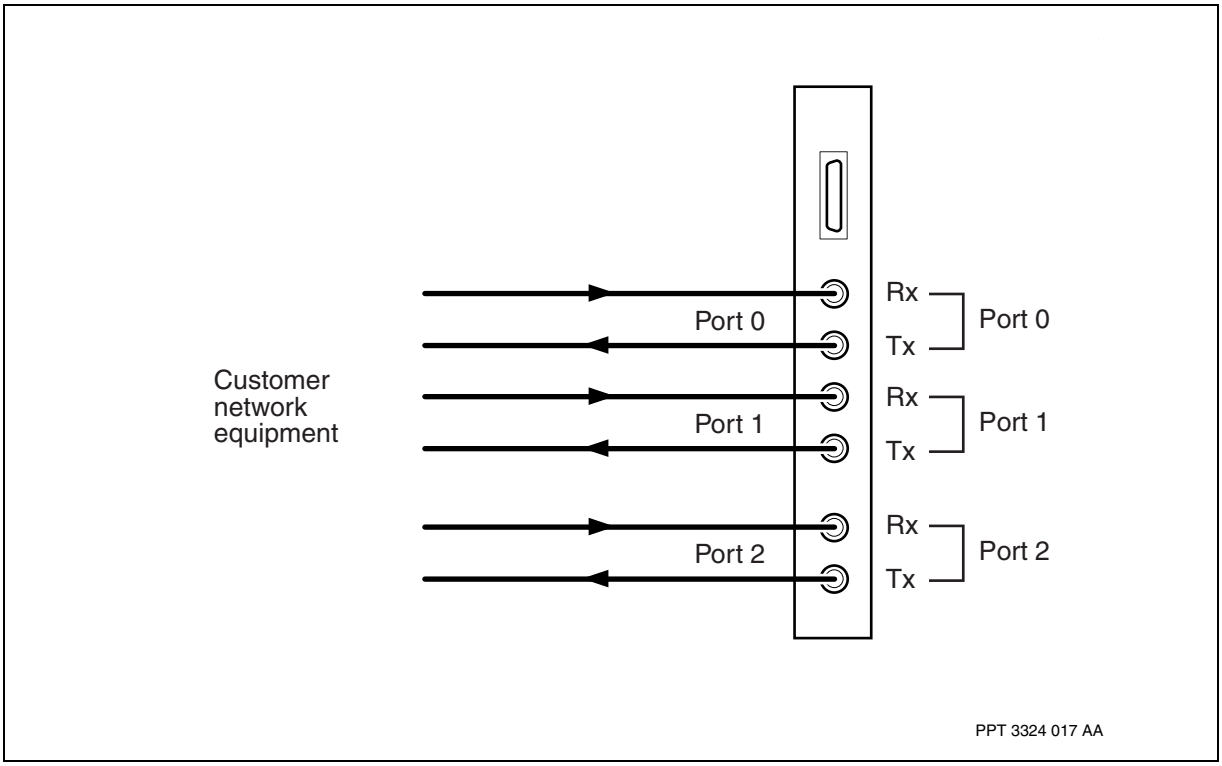
CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

Do not connect the control cable to an unused port on a main function processor. Only connect a control cable to a port that is going to be in service.

Connections for an E3 ATM FP



Customer equipment connections for an E3 ATM FP

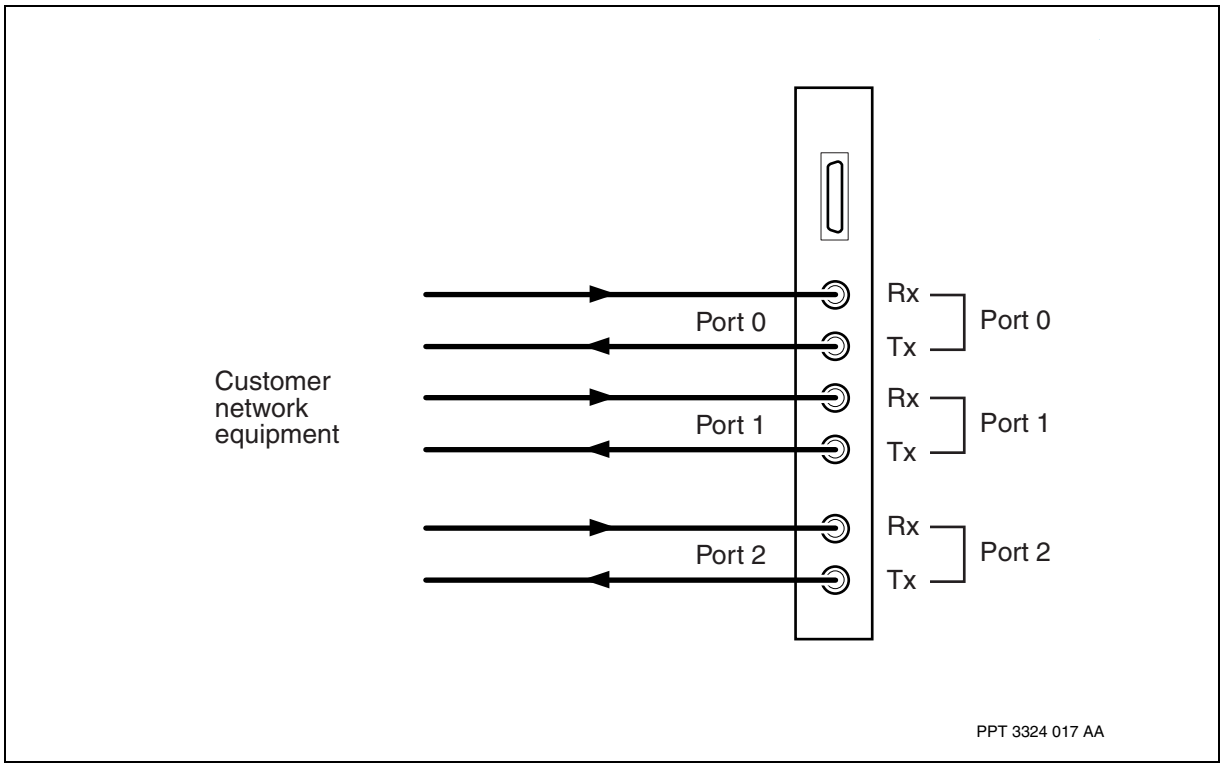


E3 ATM IP FP cable connections

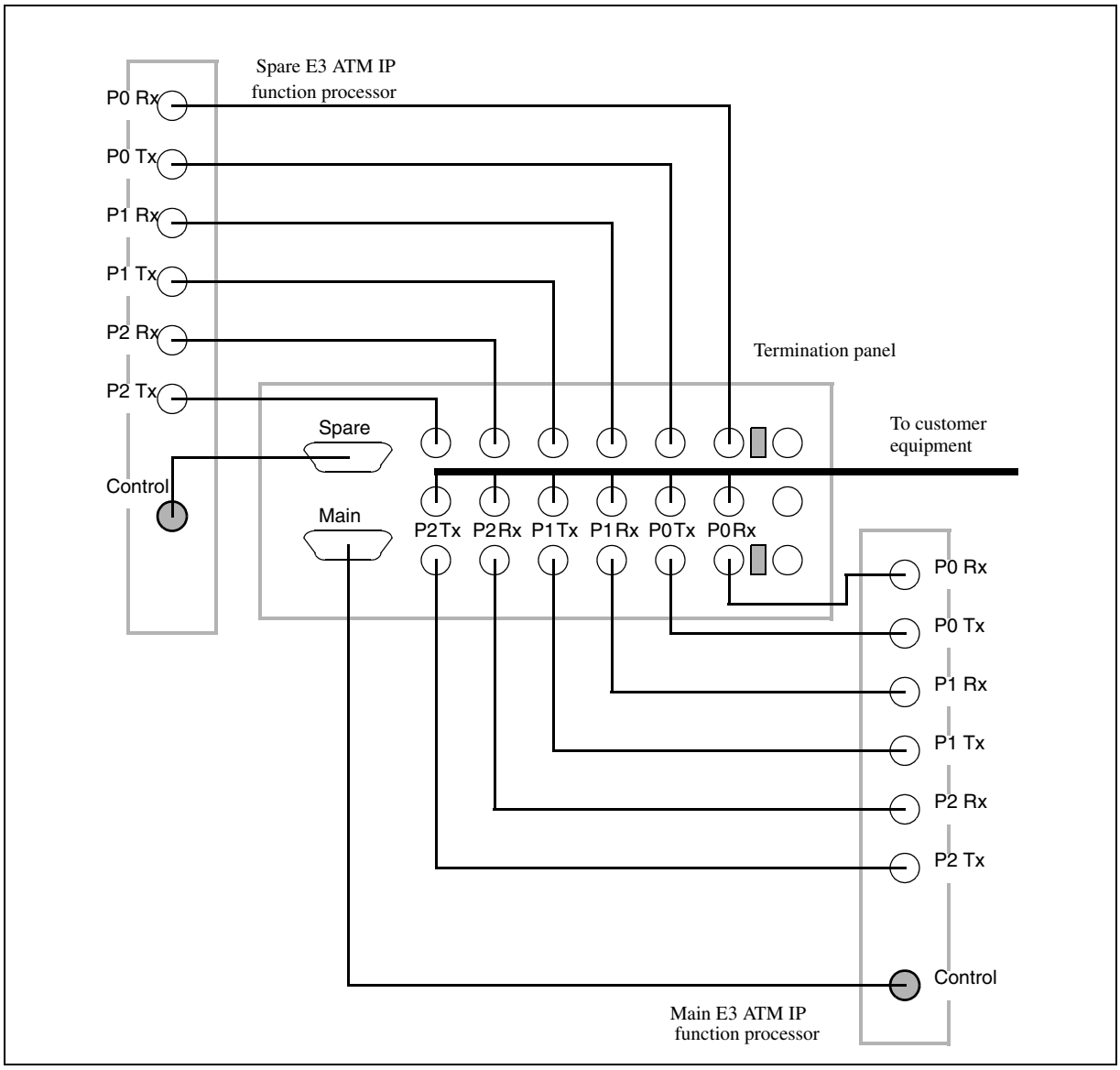
CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

Do not connect the control cable to an unused port on a main function processor. Only connect a control cable to a port that is going to be in service.

Customer equipment connections for an E3 ATM IP FP



Connections for an E3 ATM IP FP



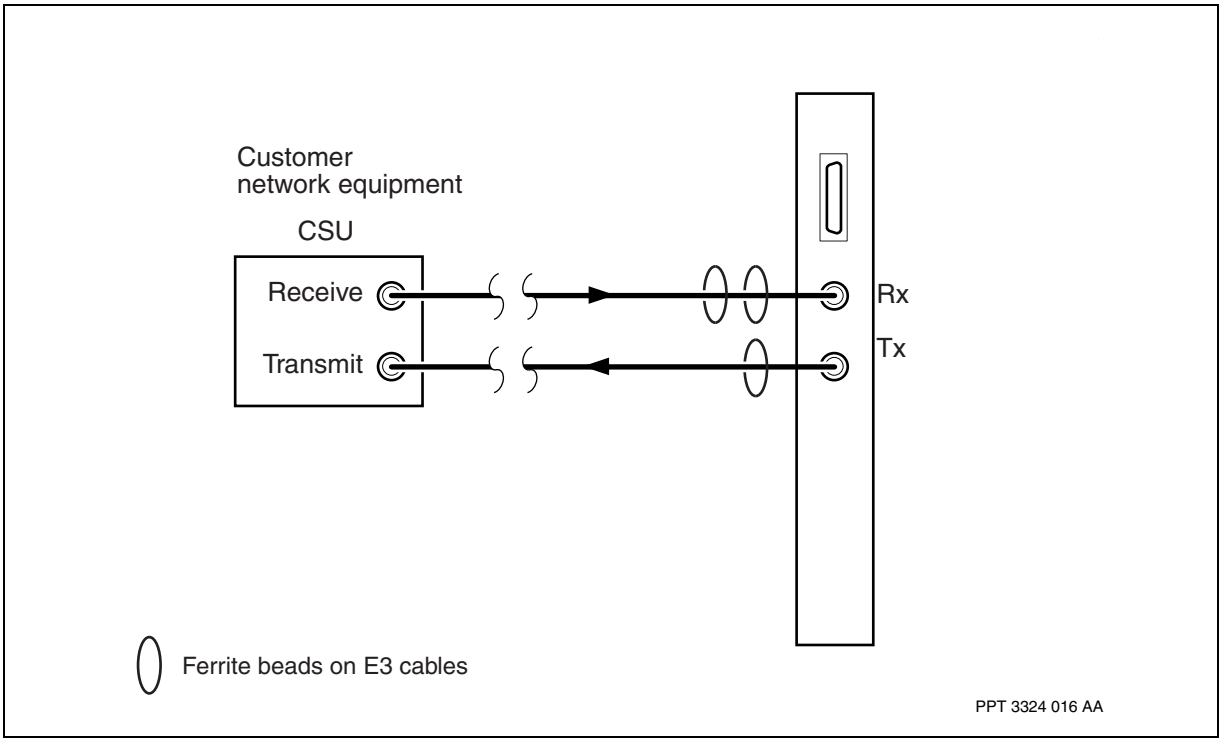
E3 FP cable connections

CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

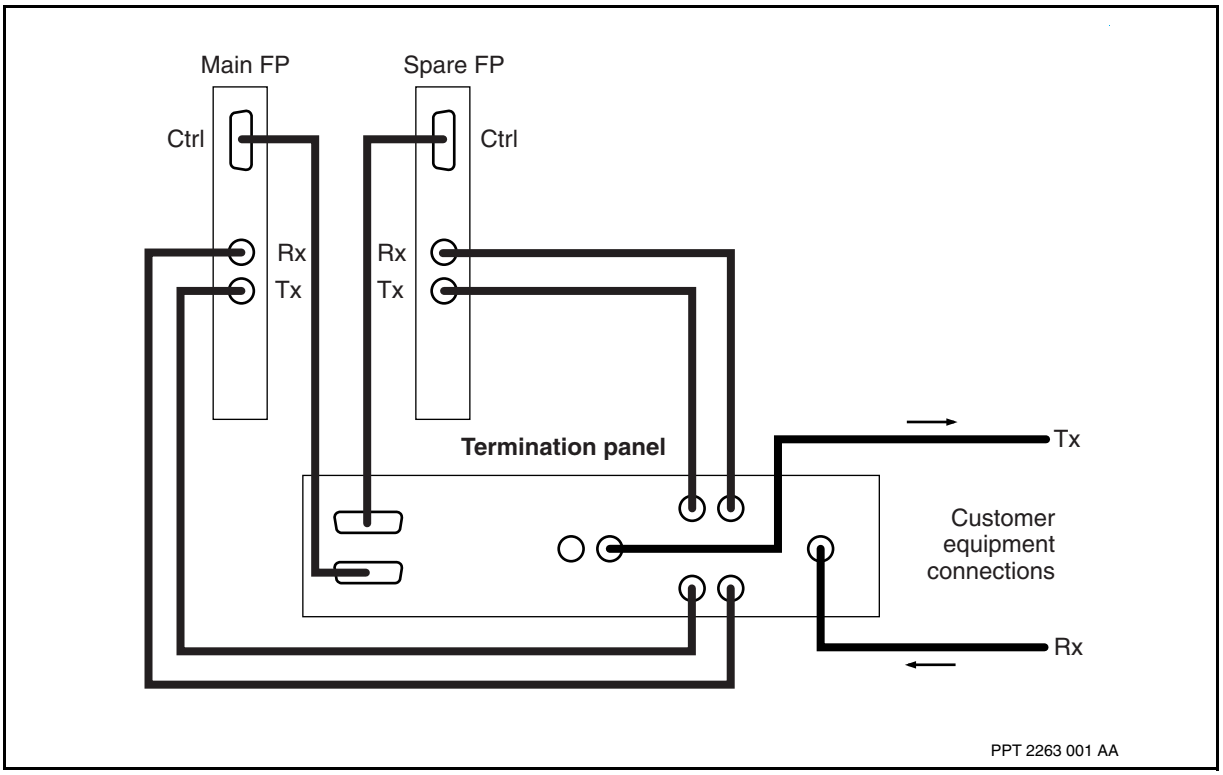
United Kingdom customers must connect the Tx output of the E3 function processor to “TFC in” at the network termination point, and the Rx input to “TFC out” at the network termination point.

To meet EMC requirements, ensure that any cables you connect from the Receive port of the E3 FP or termination panel to the customer equipment are of type NT734 and include two ferrite beads. For more information, see Ferrite beads on E3 receive cable (page 107).

Connections for an E3 FP



Cable connections from an E3 FP to a termination panel and customer equipment

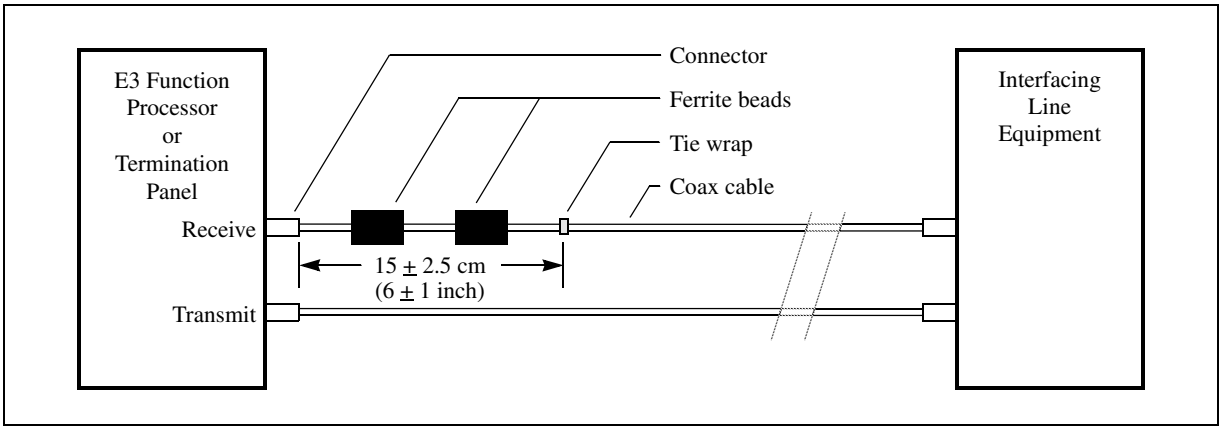


Ferrite beads on E3 receive cable

When you use the E3 card with the insulated receive shield, you must install two ferrite beads on the coaxial cable that runs from the receive port of the interface line equipment to the device. Depending on the site configuration, the device connection is either the receive port of an E3 FP or the receive port of a termination panel.

Place the two ferrite beads and the tie wrap on the receive coax cable at the end of the cable closest to the E3 FP.

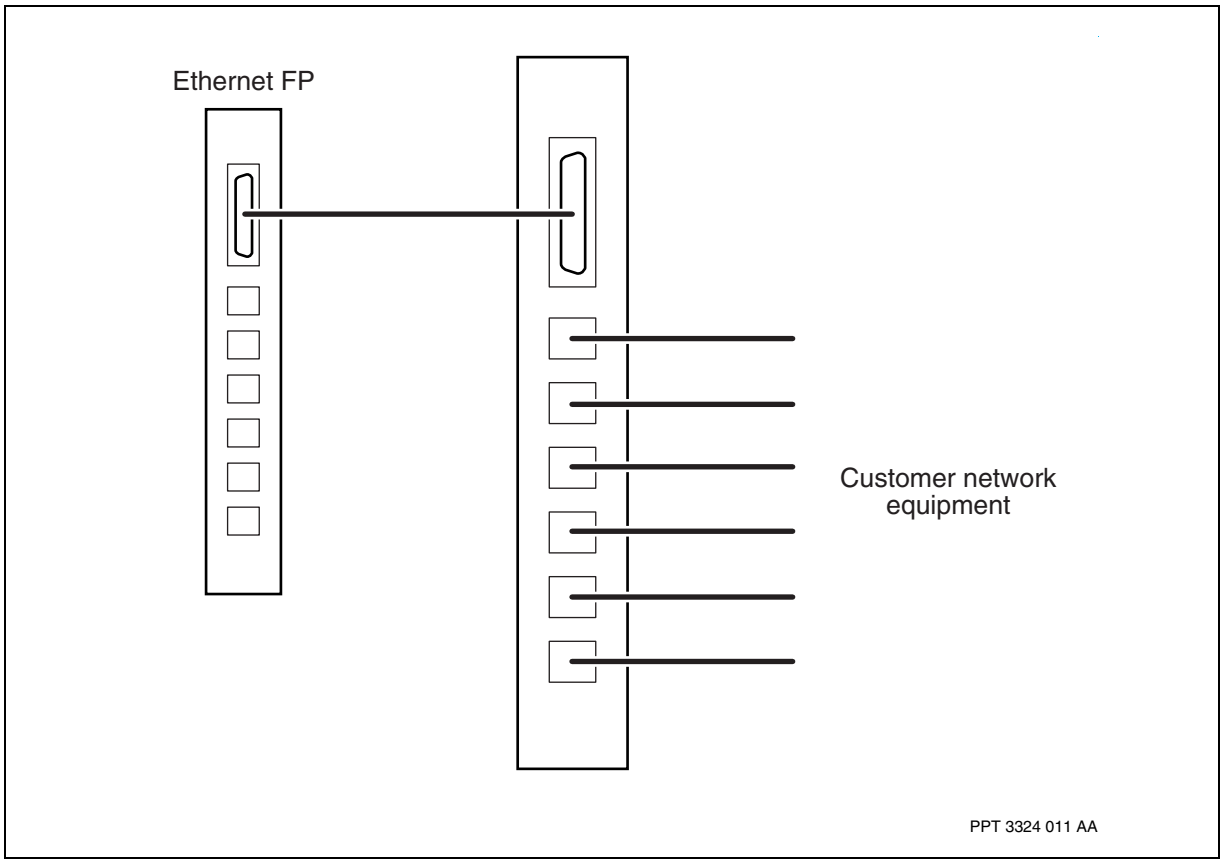
Installation of ferrite beads on E3 receive coax cable



6-port Ethernet 10BaseT FP cable connections

The figure Connections for a 6-port Ethernet10BaseT FP (NTNQ36) (page 109) shows the connection of cables between a 6-port Ethernet 10BaseT FP with PEC NTNQ36, its termination panel, and customer equipment cables.

Connections for a 6-port Ethernet10BaseT FP (NTNQ36)



Ethernet 100BaseT FP cable connections

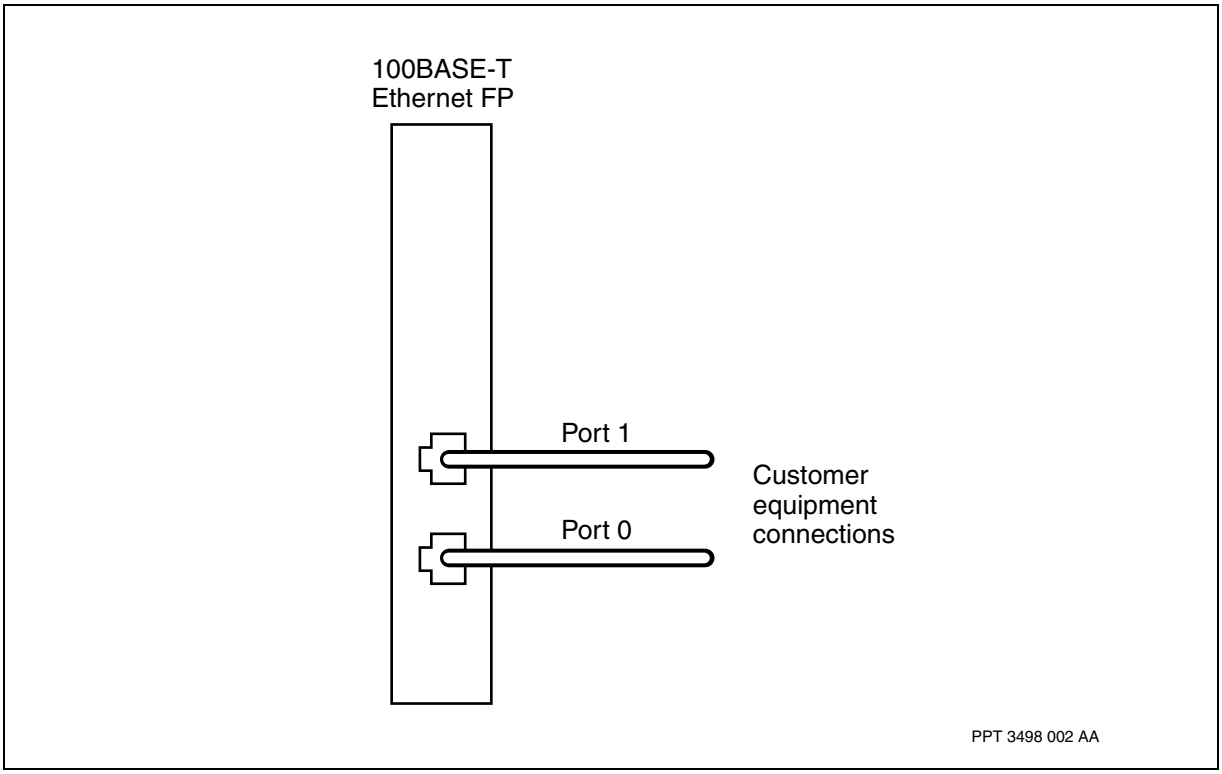
Customer equipment connects directly to the ports on the faceplate of an Ethernet 100BaseT FP, as shown in the figures

- Customer equipment connections for a 2-port Ethernet 100BaseT FP (NTNQ37) (page 110)
- Customer equipment connections for a 4-port Ethernet 10/100BaseT FP (NTNQ95) (page 111)
- Customer equipment connections for an 8-port Ethernet 10/100BaseT FP (NTNQ92) (page 112)

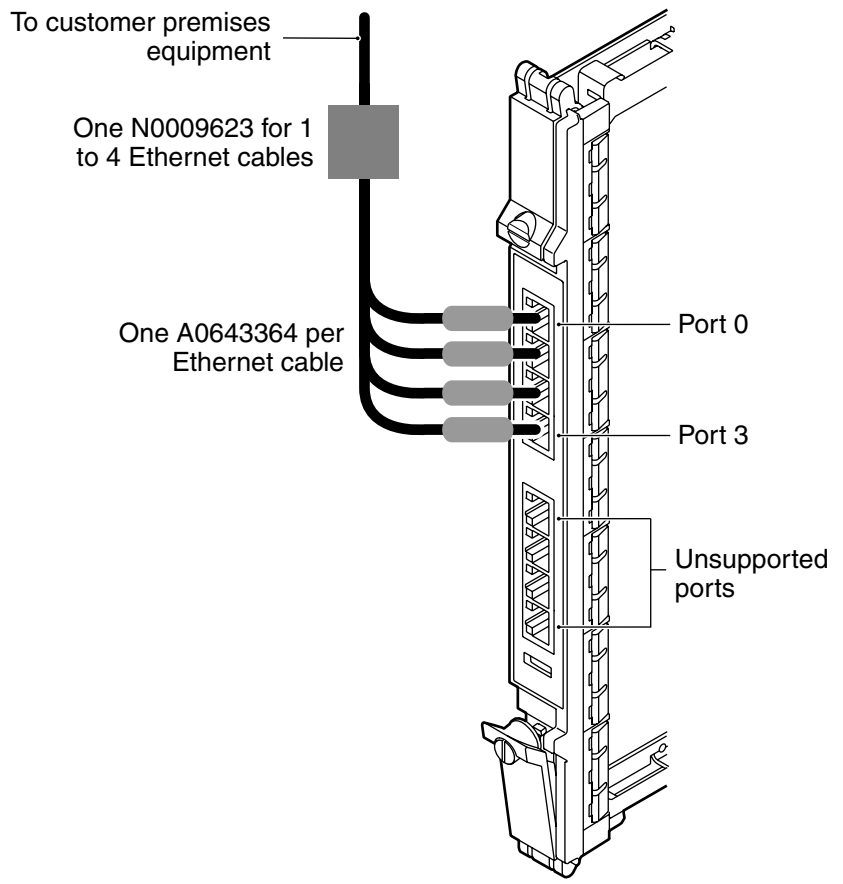
Although the NTNQ92 and NTNQ95 are compatible with 10BaseT signaling, the 100BaseT method of connection is recommended.

CAUTION
Risk of electromagnetic interference
To comply with electromagnetic interference (EMI) for Class B, use shielded cables for NTNQ92 and NTNQ95 and route all cables connected to 100BaseT Ethernet ports through the cable management guides on the device.

Customer equipment connections for a 2-port Ethernet 100BaseT FP (NTNQ37)



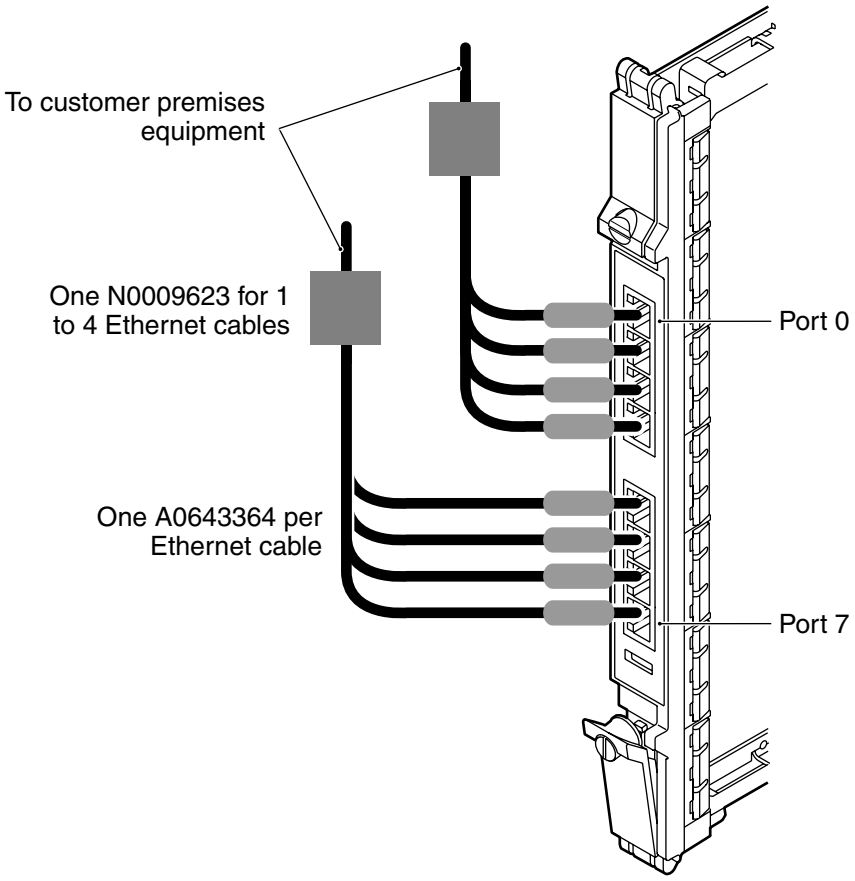
Customer equipment connections for a 4-port Ethernet 10/100BaseT FP (NTNQ95)



Note: Each Ferrite kit, NTNQ98AA consists of one N0009623 and four A0643364

PPT 3498 001 AC

Customer equipment connections for an 8-port Ethernet 10/100BaseT FP (NTNQ92)



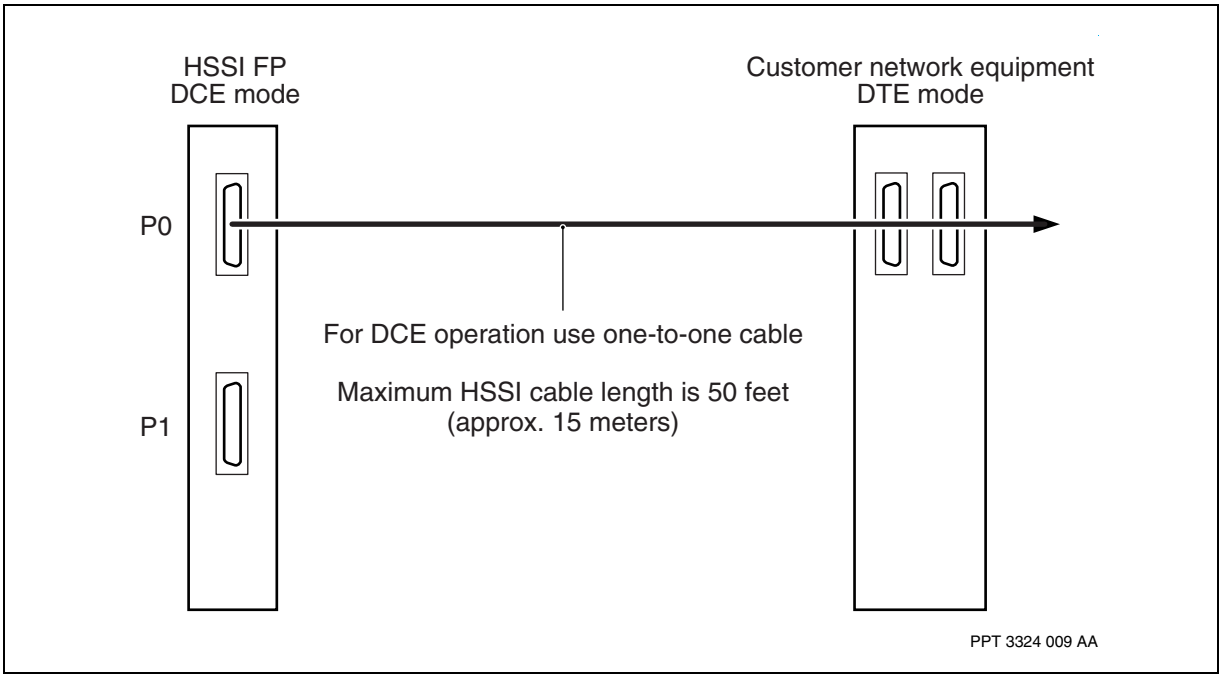
Note: Each Ferrite kit, NTNQ98AA consists of one N0009623 and four A0643364

PPT 3498 001 AA

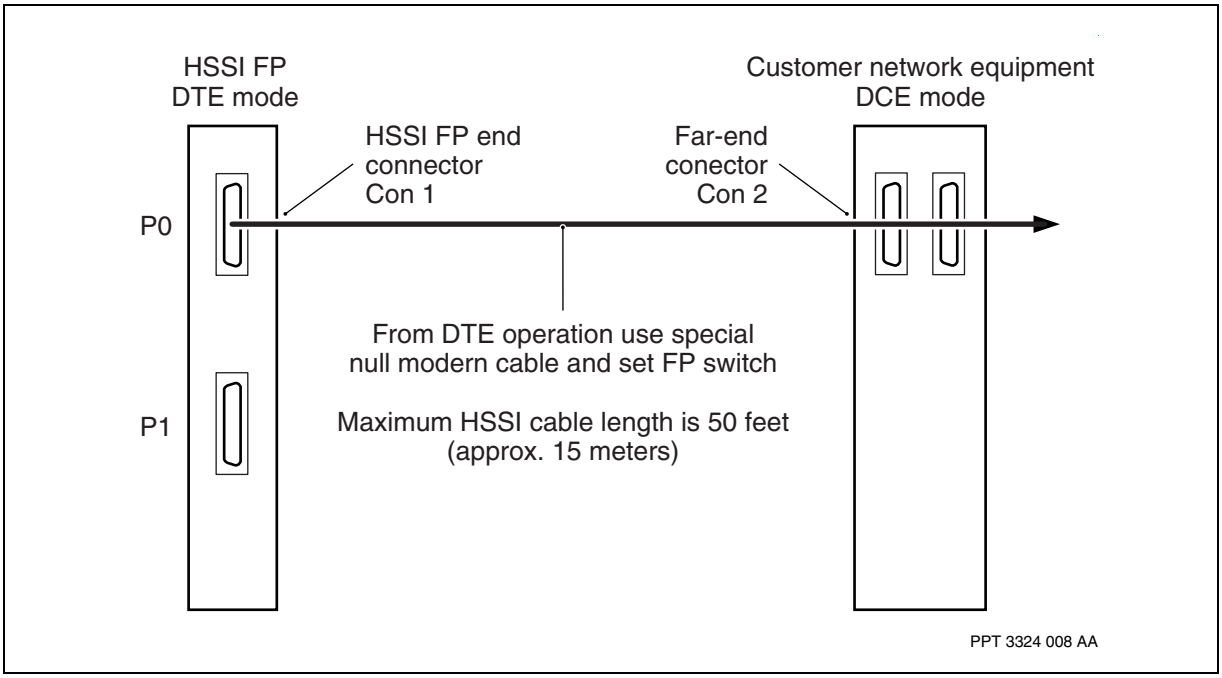
HSSI FP cable connections

Make sure you properly set the DIP switch on the FP. For more information, see “Setting switches on a HSSI function processor” in NN10600-175 *Nortel Multiservice Switch 7400 Hardware Installation, Maintenance, and Upgrade*.

Cable connections for a HSSI FP—DCE mode



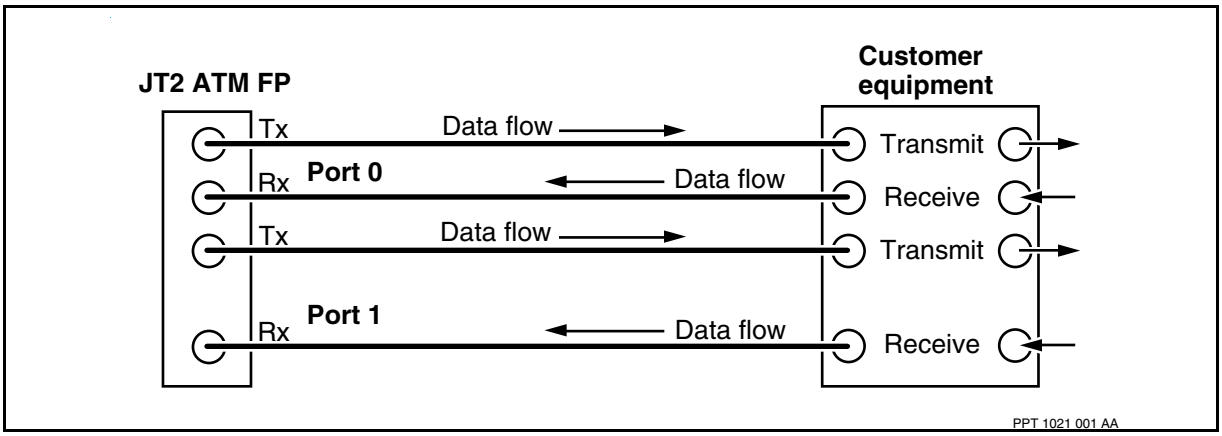
Connections for a HSSI FP—DTE mode



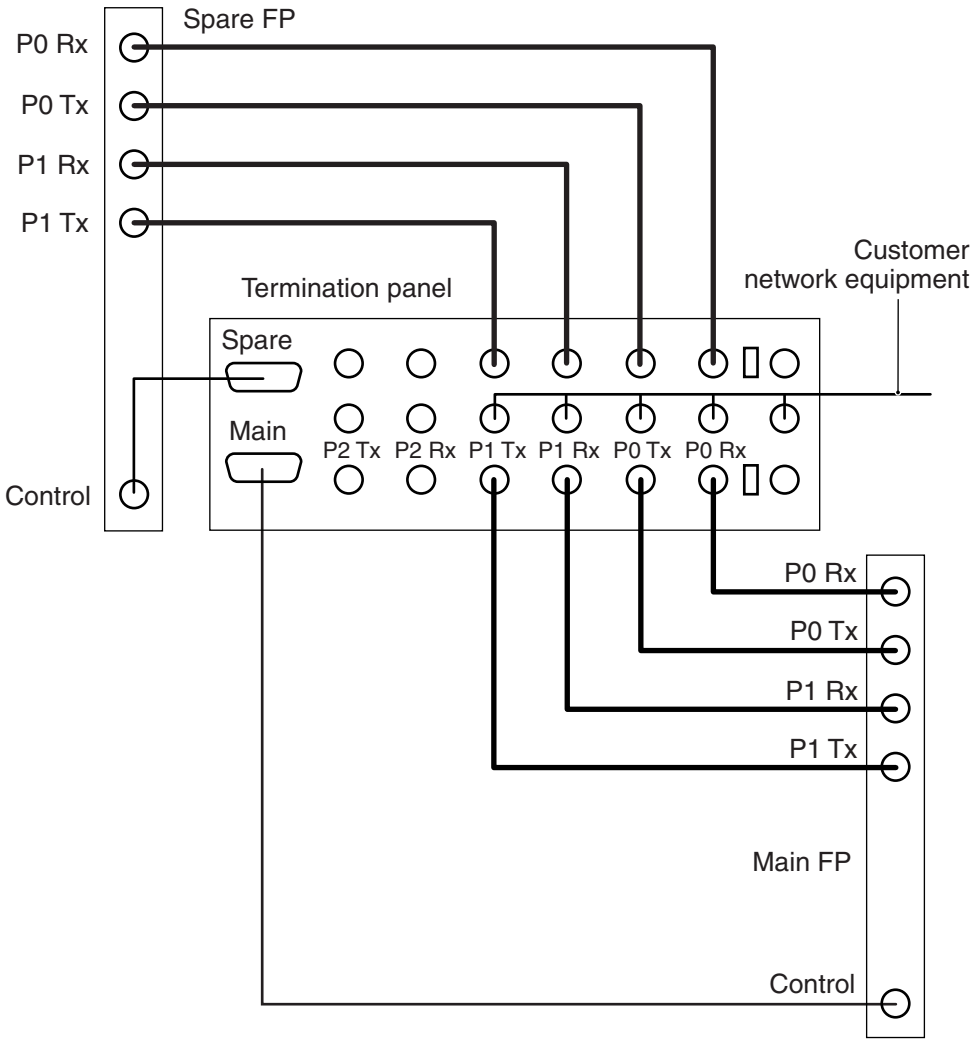
JT2 ATM FP cable connections

CAUTION
Service interruption
Sparing requires all ports on the spare FP be connected to the termination panel sparing connectors, whether they are provisioned or not. Failure to do so will result in the termination panel dropping all ports on the spare FP.

Customer equipment connections for a JT2 ATM FP



Connections for a JT2 ATM FP



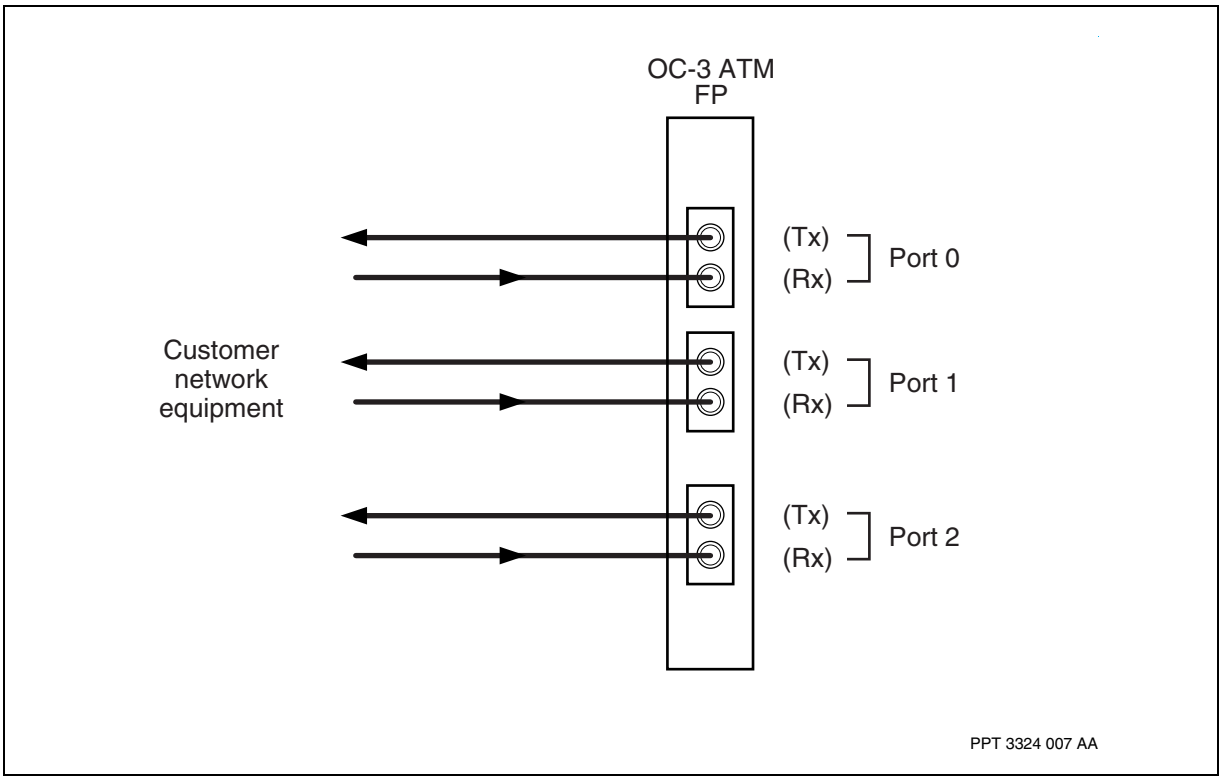
OC-3 ATM FP cable connections

DANGER

Risk of invisible laser radiation

This product is a Class 1 laser product. Fiber optic cables carry invisible laser radiation. When handling fiber optic cables remember to avoid eye or skin exposure to direct or scattered radiation.

Connections for an OC-3 ATM FP



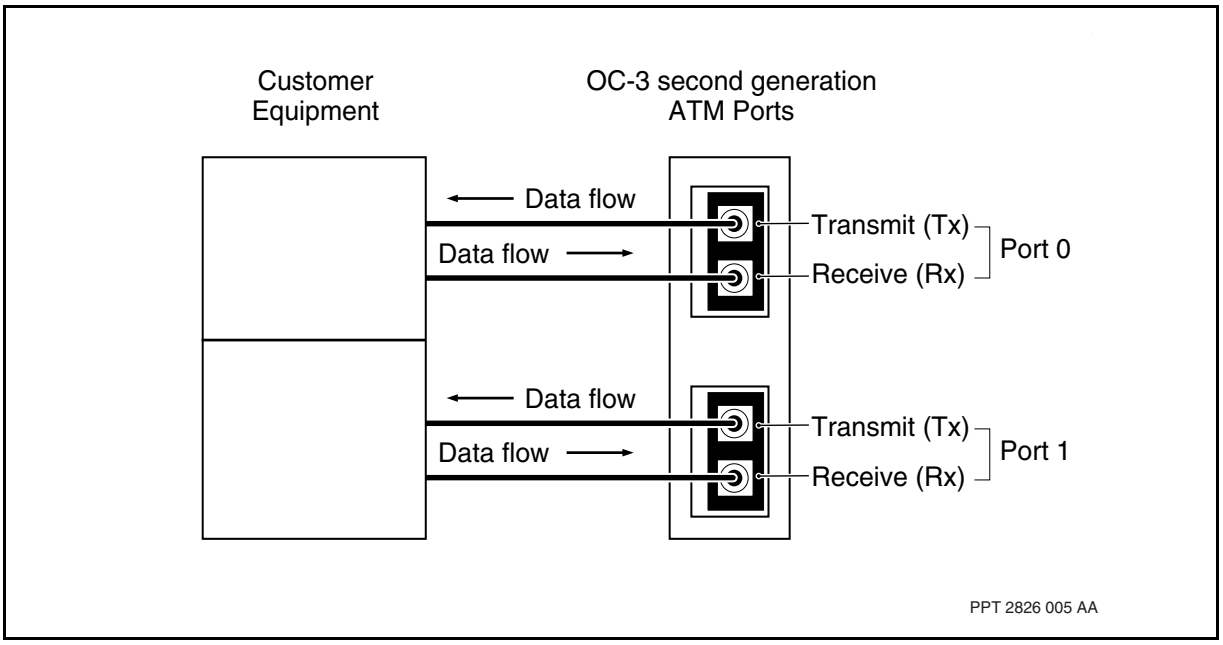
OC-3 ATM IP cable connections

DANGER

Risk of invisible laser radiation

This product is a Class 1 laser product. Fiber optic cables carry invisible laser radiation. When handling fiber optic cables remember to avoid eye or skin exposure to direct or scattered radiation.

Connections for an OC-3 ATM IP FP



V.11 FP cable connections

The following figures show where to connect cables between a V.11 FP, a termination panel, and customer equipment. Although these figures show dual DTE and DCE connections, you can also connect termination panels in single DTE or single DCE configurations.

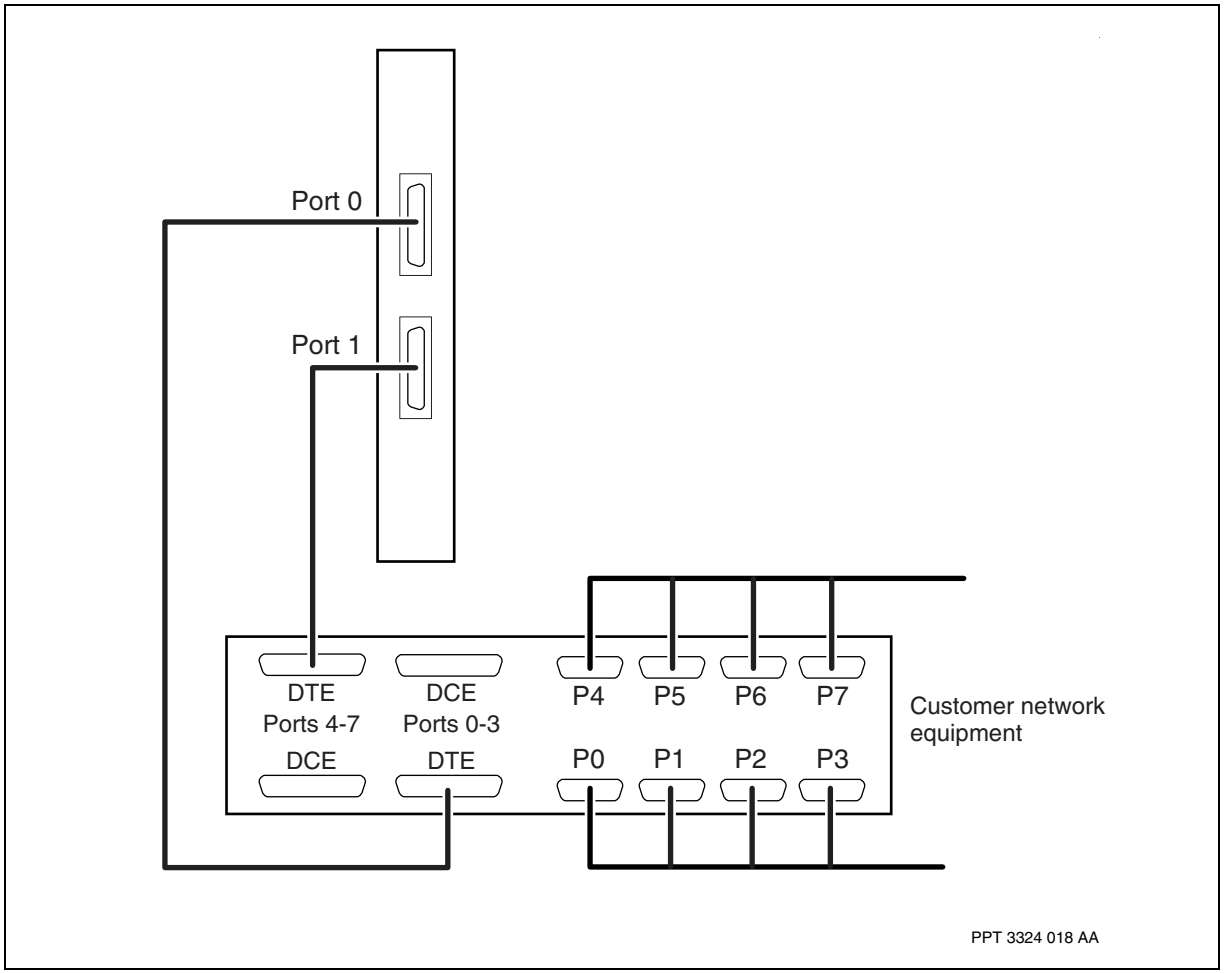
Mapping between V.11 FP and termination panel connectors

This table summarizes the mapping between the connectors for the V.11 FP and its termination panel.

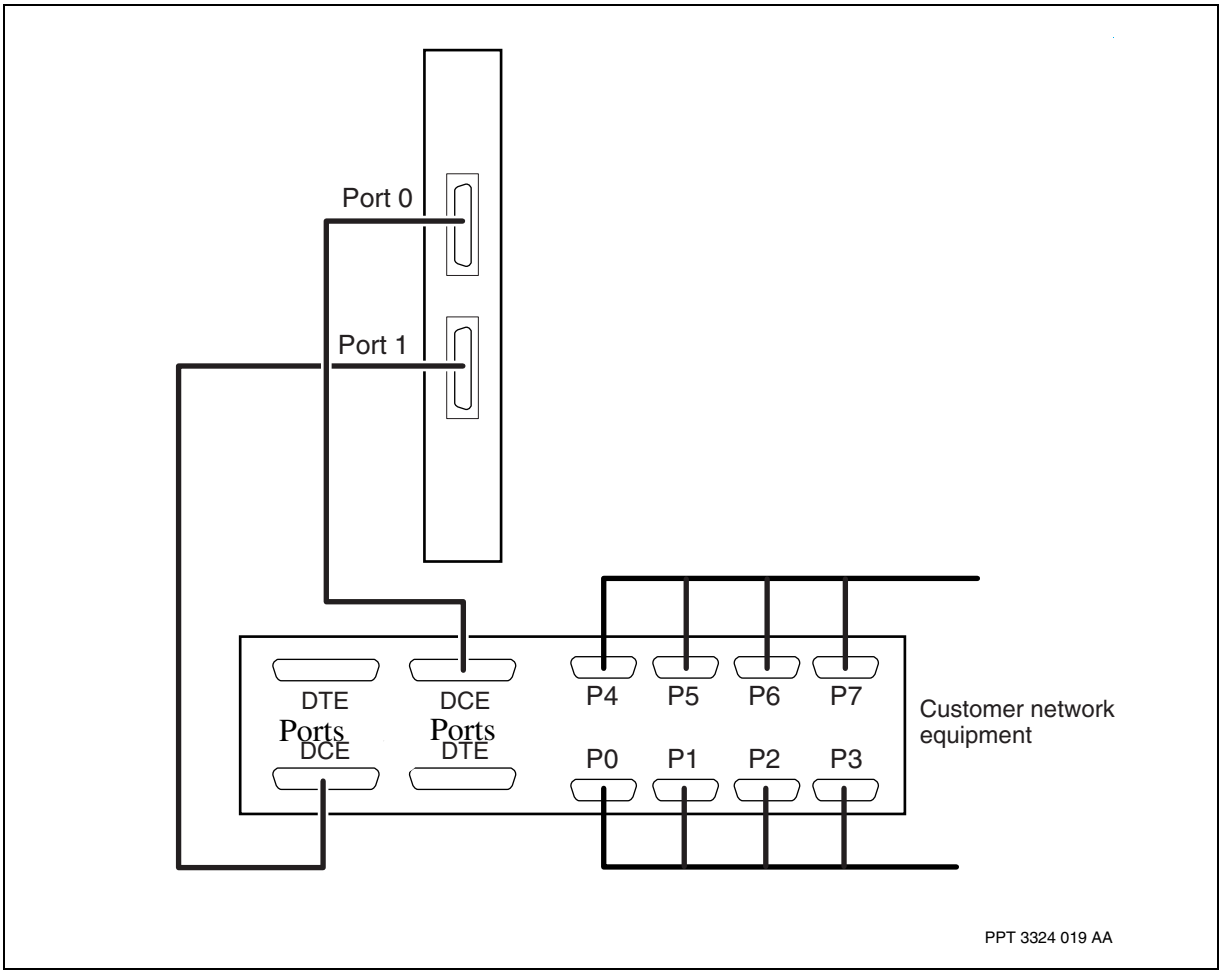
Mapping between V.11 and termination panel connectors

Faceplate connector	Termination panel port number
P0 (DTE/DCE)	0, 1, 2, and 3
P1 (DTE/DCE)	4, 5, 6, and 7

Connections for a V.11 FP—dual DTE



Connections for a V.11 FP—dual DCE



V.35 cable connections

The following figures show where to connect cables between a V.35 FP, a termination panel, and customer equipment. Although these figures show dual DTE and DCE connections, you can also connect termination panels as single DTE or single DCE configurations.

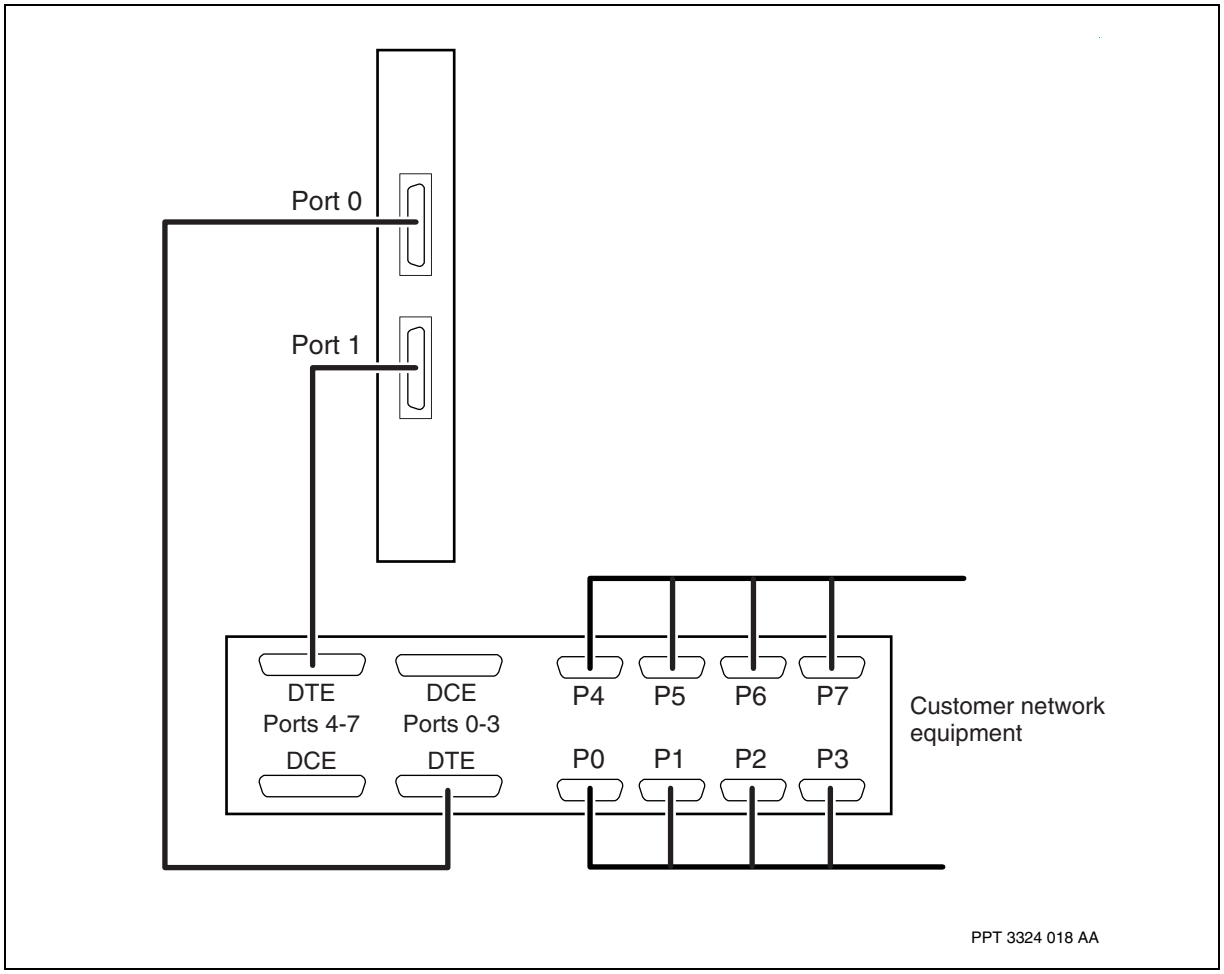
Mapping between a V.35 FP and termination panel connectors

This table summarizes the mapping between the connectors for the V.35 FP and its termination panel.

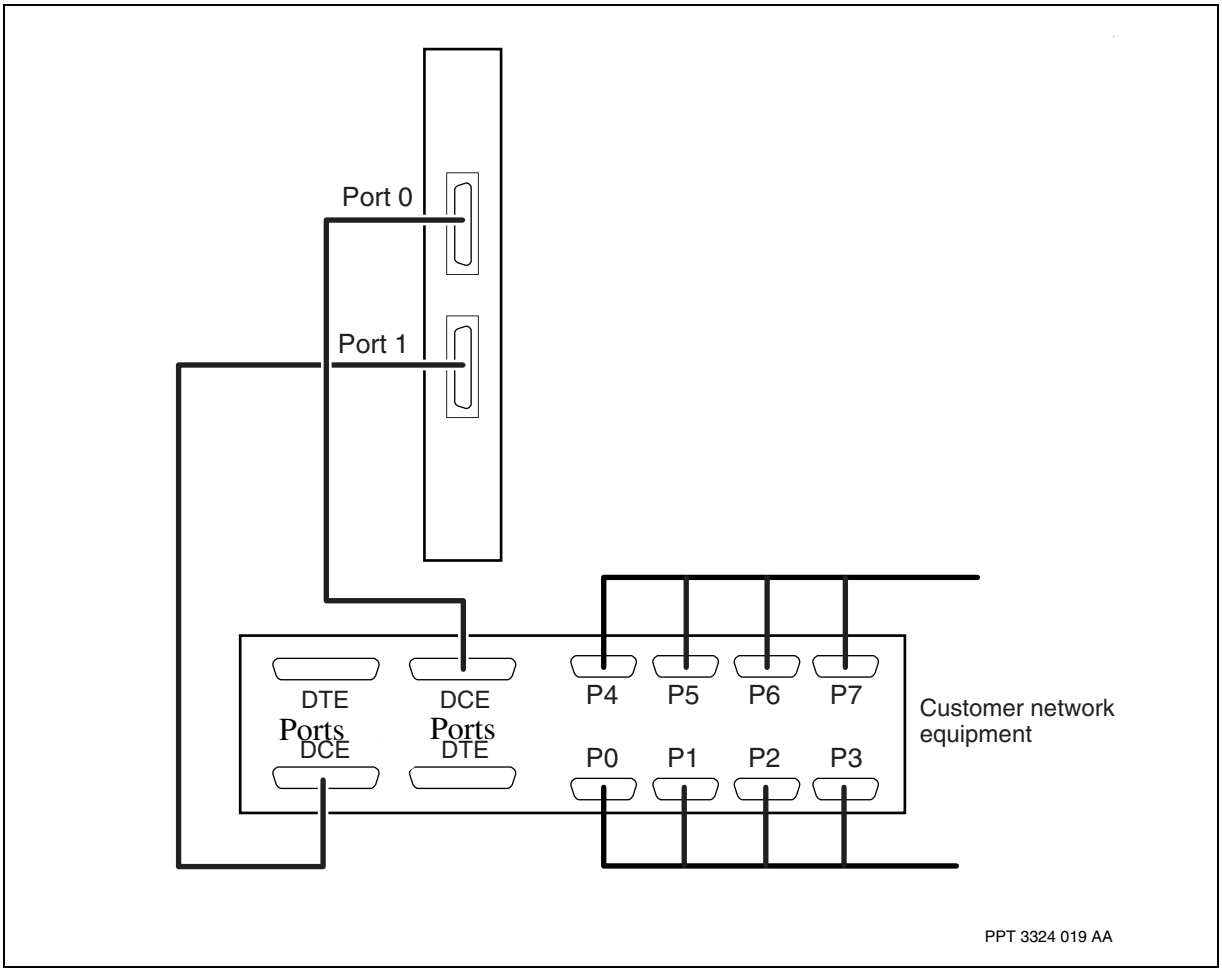
Mapping between a V.35 FP and termination panel connectors

Faceplate connector	Termination panel port number
P0 (DTE/DCE)	0, 1, 2, and 3
P1 (DTE/DCE)	4, 5, 6, and 7

Connections for a V.35 FP—dual DTE



Connections for a V.35 FP—dual DCE



Nortel Multiservice Switch 7400

FP Cabling Reference

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Language type: U.S. English