

How to Tell BXM–E Cards from BXM Cards

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Introduction

This document describes how to identify newer Enhanced Broadband Switch Module (BXM–E) cards from legacy BXM cards for the Cisco BPX 8600 Series Switch. BXM–E cards improve upon legacy BXM cards by delivering more cost–effective Asynchronous Transfer Mode (ATM) switching and traffic management. BXM–E cards allow a greater number of connections and greater cell storage capacity compared to legacy BXM cards.

BXM and BXM–E Compatibility with WAN Switch Software

The following hardware models of BXM cards are available:

Hardware model	Identifier	Functionality
BXM	No identifying letters	E3, T3, OC3, OC12
BXM–E	E	Enhanced E3 or T3
BXM–E	D	Enhanced OC3 or OC12
BXM–E	EX	Extra memory for Enhanced E3 or T3
BXM–E	DX	Extra memory for Enhanced OC3 or OC12

For WAN Switch Software Release 9.2, the BXM–E card is not compatible with the BXM card. This incompatibility only applies to replacing a card in a BPX. Connections and trunks between BXM and BXM–E cards are fully functional. BXM and BXM–E incompatibility can result in a mismatch condition if:

- A switch software upgrade from release 9.1 to release 9.2 has a BPX with a combination of Y–redundant BXM–E cards with different memory configurations between the cards. BXM card memory differences are ignored in release 9.1 but not in release 9.2.
- A switch software upgrade from release 9.1 to release 9.2 has a BPX with a combination of Y–redundant BXM–E and BXM cards. BXM card memory differences are ignored in release 9.1 but not in release 9.2.
- A lower capacity BXM card is installed in a higher capacity BXM–E slot because of an incorrectly ordered return material authorization (RMA).

- A BXM-E or BXM is installed into a Y-redundant pair with a nonmatching card type because of an incorrectly ordered RMA.

For more information on BXM-E cards, refer to [Enhanced BXM](#).

For more information on upgrading from BXM to BXM-E, refer to [Upgrade BXM to BXM-E Cards](#).

The following table shows BXM and BXM-E compatibility with revisions of commonly used switch software.

WAN Switch Software Release	Is card type clearly indicated in <code>dspcd <slot_number></code> output?	BXM and BXM-E Compatibility
9.1.x	No.	Full compatibility. Switch software does not distinguish between BXM and BXM-E cards. BXM and BXM-E cards can coexist in a Y-redundant configuration with either one serving as primary.
9.2.x	Only in release 9.2.36 and later.	Interoperability between the two cards is supported only during the upgrade from BXM to BXM-E. Once a slot is running on BXM-E cards, never downgrade it to a BXM.
9.3.x	Yes. BXM-E card types are indicated as output of the <code>dspcd <slot_number></code> command.	Full compatibility. BXM and BXM-E cards can coexist in a Y-redundant configuration with either one serving as primary.

The following output about a BXM-E card with extra memory was displayed after issuing the `dspcd <slot_number>` command. Release 9.3.11 was used. The card type is indicated in the Type: field below.

```
bpx1      TN      SuperUser      BPX 8620  9.3.11  May 19 2001

Detailed Card Display for BXM-155 in slot 4
Status:           Active
Revision:         FKL                      Backcard Installed
Serial Number:    870918                    Type: LM-BXM
Top Asm Number:   28215802                   Revision: BA
Queue Size:    524280                   Serial Number: 822049
Support: 8 Pts, OC3, FST, VcShp             Supp: 8 Pts,OC3,SMF,APS
Support: APS(FW, HW1+1)
Support: LMIv 1, ILMIV 1, NbrDisc
Support: OAMLp, TrfcGen
#Ch:32704,PG[1]:32736, PG[2]:32736
PG[1]:1,2,3,4,PG[2]:5,6,7,8,
#Sched_Ch:61440
Type: BXME, revision DX

Last Command: dspcd 10
```

Correcting a Mismatched BXM Card

A procedure to correct a mismatched BXM Y-redundant card set was verified in the laboratory using switch software 9.2.34 and BXM and BXM-E T3 firmware model E cards. Routers were connected to the BXM cards to provide traffic load across the BXM Y-redundant card set. During the laboratory verification, the removal of the Active BXM in the Y-redundant pair and the **switchyred** command caused almost no traffic disruption.

1. Review the [Upgrade BXM to BXM-E Cards text to obtain background information.](#)
2. Remove the standby BXM and replace it with a BXM-E.
3. If required, move the BXM-E to an empty slot and issue the **cnfcdparm** command to configure channel statistics level to match that of the active BXM. This will bring the standby BXM-E out of the mismatch mode with the active BXM.
4. Wait for the BXM-E to come up in standby state.
5. Remove the active BXM and replace with a BXM-E. This will force the standby BXM-E to come up in active state. The **switchyred** command is not allowed because front cards have different queue sizes.
6. Wait for the new BXM-E to come up in standby state.
7. Issue the **switchyred** command to verify Y-redundant functionality.

How to Tell BXM-E Cards from BXM Cards

To identify the BXM card type for release 9.2., issue the command **dspcd <slot_number>** to determine the card type. To distinguish between the two types of cards, observe the Queue Size field of the **dspcd <slot_number>** output.

In this example, BXM-155 cards are used. If the Queue Size field is 228300, the card type is the legacy BXM. If the Queue Size field is 260090 or 262140, the card type is the BXM-E card. Some legacy E3/T3 BXM cards report a Queue Size field of 131000 because less memory is needed on lower speed cards. BXM-E cards with extra memory cards report a Queue Size field of 524280.

The following tables show the difference between the **dspcd** command outputs in release 9.2.33 for the BXM and the BXM-E cards.

The following output about a BXM card was displayed after issuing the **dspcd <slot_number>** command. Release 9.2.33 was used. There is no Type: field to identify whether the card was a BXM or BXM-E.

```
bpx1      TN      SuperUser      BPX 8620  9.2.33      Apr. 29 2001

Detailed Card Display for BXM-155 in slot 10
Status:      Active
Revision:     FDD                      Backcard Installed
Serial Number: 770078                Type:          LM-BXM
Fab Number:   28-2158-02             Revision:      BS
Queue Size: 228300                Serial Number: 690488
Support: 8 Pts, OC3, FST, VcShp      Supp: 8 Pts,OC3,SMF,RedSlot:NO
Supp: VT,ChStLv 1,VSI(Lv 2,I,T,M)
Support: APS(FW)
```

```
Support: LMiver 1, ILMiver 1
Support: OAMlp, TrfcGen
#Ch:16320,PG[1]:8160,PG[2]:8160
PG[1]:1,2,3,4,PG[2]:5,6,7,8,
#Sched_Ch:16384
```

```
Last Command: dspcd 10
```

The following output about a BXM-E card was displayed after issuing the **dspcd <slot_number>** command. Release 9.2.33 was used. There is no Type: field to identify whether the card was a BXM or BXM-E.

```
bpx2          TN      SuperUser      BPX 8620  9.2.33   Apr. 29 2001

Detailed Card Display for BXM-155 in slot 3
Status:          Active
Revision:        FAE                      Backcard Installed
Serial Number:   869127                    Type:           LM-BXM
Fab Number:      28-2158-02                 Revision:       P03
Queue Size:    262140                   Serial Number:  401183
Support: 8 Pts, OC3, FST, VcShp           Supp: 8 Pts,OC3,MMF,RedSlot:NO
Supp: VT,ChStLv 1,VSI(Lv 2,I,T,M)
Support: APS(FW)
Support: LMiver 1, ILMiver 1
Support: OAMlp, TrfcGen
#Ch:16320,PG[1]:8160,PG[2]:8160
PG[1]:1,2,3,4,PG[2]:5,6,7,8,
#Sched_Ch:16384

Last Command: dspcd 3
```

Related Information

- [Upgrade BXM to BXM-E Cards](#)
- [BXM Card Sets](#)
- **Using TFTP on a PC to Download WAN Switch Software and Firmware**
- **Using TFTP to Download Firmware to an IPX, IGX, or BPX**
- **Cisco WAN Switching Solutions – Cisco Documentation**
- **Guide to New Names and Colors for WAN Switching Products**
- **Downloads – WAN Switching Software**
- **Technical Support & Documentation – Cisco Systems**

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