



# HP Smart Storage Cables

This cable matrix is intended as a supporting material when upgrading your HP ProLiant Gen9 server to include a different Smart Array Controller or Smart Host Bus Adapter to increase storage expansion during a field or a channel upgrade event. This matrix does not include any Configuration to Order (CTO) upgrade event as it will be handled by CTO configuration rules.

## HP ProLiant DL380 Gen9

	H240ar	P440ar	P440	P840	H240	SAS Expander	B140i	
<b>SFF configuration</b>	8 SFF drive cage	<sup>1</sup>	<sup>1</sup>	783009-B21	783009-B21	<sup>1</sup>	N/A	Embedded
	16 SFF drive (8+8)	N/A	N/A	<sup>2</sup>	<sup>2</sup>	786092-B21	727250-B21 <sup>3</sup>	
	24 SFF drive (8+8+8)	N/A	N/A	<sup>2</sup>	<sup>2</sup>	786092-B21	727250-B21 <sup>3</sup>	
	Front 2 SFF <sup>4</sup>	N/A	N/A	785989-B21	785989-B21	N/A	727250-B21 <sup>3</sup>	
	Rear 2 SFF SATA cage <sup>5</sup>	N/A	N/A	N/A	N/A	N/A	727250-B21 <sup>6</sup>	<sup>7</sup>
<b>LFF configuration</b>	4 LFF drive cage	N/A	N/A	785989-B21	785989-B21	N/A	N/A	Embedded
	12 LFF drive cage <sup>8</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	10 LFF	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8 LFF SAS	N/A	N/A	785991-B21	785991-B21	N/A	727250-B21 <sup>3</sup>	Embedded
	Rear 3 LFF SAS	N/A	N/A	N/A	<sup>9</sup>	N/A	727250-B21 <sup>3</sup>	
	Rear 2 SFF	N/A	N/A	N/A	783007-B21	N/A	727250-B21 <sup>3</sup>	

<sup>1</sup> No extra cables required to purchase when adding the H240, H240ar, or P440ar as the SAS cable that comes with the server works with these cards.

<sup>2</sup> Each 8 SFF drive cage comes with the cable 747559-001 to connect to the P440 or P840.

<sup>3</sup> HP SAS Expander Card comes with all the cables necessary to connect any Smart Storage cards for both LFF and SFF.

<sup>4</sup> Front 2 SFF drive cage includes SAS cable 776390-001 and SATA cable 776389-001 for 10 SFF, 18 SFF configurations.

<sup>5</sup> Rear 2 SFF drive cage is supported with 24 SFF with expander for 26 SFF solution.

<sup>6</sup> Expander kit comes with necessary cable to connect to the rear 2 SFF drive cage.

<sup>7</sup> Cable is included in the 2 SFF SATA drive cage kit (option part number 783008-B21) to connect the rear 2 SFF cage to B140i.

<sup>8</sup> Not field upgradeable; available CTO only.

<sup>9</sup> Cable 780674-001 ships in the Rear 3 LFF option kit.

**HP ProLiant DL360 Gen9**

	<b>H240ar</b>	<b>P440ar</b>	<b>P440</b>	<b>P840</b>	<b>H240</b>	<b>SAS Expander</b>	<b>B140i</b>	
<b>SFF configuration</b>	8 SFF drive cage	766209-B21	766209-B21	775927-B21 <sup>1</sup>	766205-B21 <sup>2</sup>	775927-B21 <sup>1</sup>	Not supported	Embedded
	10 SFF drive cage (8 SFF + 2 Universal Bay)	N/A	N/A	775927-B21 <sup>1</sup>	766205-B21 <sup>2</sup>	775927-B21 <sup>1</sup>	Not supported	<sup>3</sup>
<b>LFF configuration</b>	4 LFF drive cage	766211-B21	766211-B21	775929-B21	N/A	775929-B21	Not supported	Embedded

<sup>1</sup> Cable Kit P/N 775927-B21 contains five cables; two cables to support P440, two cables to support H240, and one cable to support the 2 SFF Universal Bays.

<sup>2</sup> When adding P840 on slot one of server, please purchase P840 special option kit part number 766205-B21 that contains the required cable.

<sup>3</sup> When adding the two SFF Universal Bay, cable is included in the two SFF Universal Bay Kit to connect from B140i to the Universal Bay.

**HP ProLiant DL180 Gen9**

	<b>H240ar</b>	<b>P440ar</b>	<b>P440</b>	<b>P840</b>	<b>H240</b>	<b>SAS Expander</b>	<b>B140i</b>	
<b>SFF configuration</b>	8 SFF drive	Not supported	Not supported	725578-B21 <sup>1</sup>	725578-B21 <sup>1</sup>	<sup>2</sup>	N/A	Embedded
	16 SFF drive (8+8)	Not supported	Not supported	725578-B21 <sup>1</sup> (quantity of 2)	725578-B21 <sup>1</sup> (quantity of 2)	774870-B21 <sup>3</sup>	N/A	
<b>LFF configuration</b>	4 LFF NHP drive <sup>4</sup>	Not supported	Not supported	Not supported	Not supported	<sup>2</sup>	Not supported	Embedded
	8 LFF NHP drive <sup>4</sup>	Not supported	Not supported	Not supported	Not supported	<sup>2</sup>	Not supported	
	8 LFF HP drive	Not supported	Not supported	725577-B21 <sup>5</sup>	725577-B21 <sup>5</sup>	<sup>2</sup>	N/A	
	12 LFF HP drive	Not supported	Not supported	N/A	725574-B21 <sup>6</sup>	725574-B21 <sup>7</sup>	Not supported	

<sup>1</sup> Part number 725578-B21 is a HP DL180 Gen9 8 SFF Smart Array Cable Kit.

<sup>2</sup> When upgrading from B140i to H240 PCIe, use the cable that was connected to B140i.

<sup>3</sup> When adding the second 8 SFF drive cage using the H240, add cable kit 774870-B21.

<sup>4</sup> P440 and P840 are not supported on the NHP drive configurations.

<sup>5</sup> Part number 725577-B21 is a HP DL180 Gen9 8 LFF Smart Array Cable Kit.

<sup>6</sup> Part number 725574-B21 is a HP DL180 Gen9 12 LFF HP Enablement Kit; kit contains the backplane and cables necessary to upgrade from 8 LFF HP to 12 LFF HP with the P840.

<sup>7</sup> 12 LFF configuration can be supported with two H240 cards. Starting with the 8 LFF HP and the H240 configuration (see note 2 on this configuration), add the 725574-B21 12 LFF HP Enablement Kit (see note 6 on the Enablement Kit).

**HP ProLiant DL160 Gen9**

	<b>H240ar</b>	<b>P440ar</b>	<b>P440</b>	<b>P840</b>	<b>H240</b>	<b>SAS Expander</b>	<b>B140i</b>
<b>SFF configuration</b> 8 SFF drive	Not supported	Not supported	774619-B21	Not supported	774621-B21	Not supported	Embedded
<b>LFF configuration</b> 4 LFF drive	Not supported	Not supported	725593-B21	Not supported	725590-B21	Not supported	Embedded

**HP ProLiant DL120 Gen9**

	<b>H240ar</b>	<b>P440ar</b>	<b>P440</b>	<b>P840</b>	<b>H240</b>	<b>SAS Expander</b>	<b>B140i</b>
<b>SFF configuration</b> 8 SFF drive	Not supported	Not supported	777418-B21 <sup>1</sup>	Not supported	777421-B21 <sup>2</sup>	Not supported	Embedded
<b>LFF configuration</b> 4 LFF drive	Not supported	Not supported	777382-B21 <sup>3</sup>	Not supported	777385-B21 <sup>4</sup>	Not supported	Embedded

<sup>1</sup> Part number 777418-B21 HP DL120 Gen9 8 SFF P440 Cbl Kit is required to upgrade from B140i to a P440.

<sup>2</sup> Part number 777421-B21 HP DL120 Gen9 8 SFF H240 Cbl Kit is required to upgrade from B140i to a H240.

<sup>3</sup> Part number 777382-B21 HP DL60/120 Gen9 4 LFF P440 Cbl Kit is required to upgrade from B140i to P440.

<sup>4</sup> Part number 777385-B21 HP DL60/120 Gen9 4 LFF H240 Cbl Kit is required to upgrade from B140i to H240.

**HP ProLiant DL80 Gen9**

	<b>H240ar</b>	<b>P440ar</b>	<b>P440</b>	<b>P840</b>	<b>H240</b>	<b>SAS Expander</b>	<b>B140i</b>
<b>LFF configuration</b>	4 LFF NHP drive	Not supported	Not supported	Not supported	Not supported	Not supported	Embedded
	8 LFF HP drive	Not supported	Not supported	779619-B21 <sup>1</sup>	7779619-B21 <sup>1</sup> (quantity of 2)	779622-B21 <sup>2</sup> (quantity of 2)	Not supported
	12 LFF HP drive	Not supported	Not supported	779619-B21 <sup>1</sup>	7779619-B21 <sup>2</sup>	779622-B21 <sup>2</sup> (quantity of 2)	Not supported

<sup>1</sup> Part number 779619-B21 HP DL80 Gen9 LFF Smart Array P440/P840 SAS Cable Kit is required when upgrading from a B140i to either the P440 or P840.

<sup>2</sup> Part number 779622-B21 HP DL80 Gen9 LFF Smart Array H240 SAS Cable Kit is required when upgrading from a B140i to H240.

**HP ProLiant DL60 Gen9**

	<b>H240ar</b>	<b>P440ar</b>	<b>P440</b>	<b>P840</b>	<b>H240</b>	<b>SAS Expander</b>	<b>B140i</b>
<b>LFF configuration</b>	4 LFF drive	Not supported	Not supported	777382-B21 <sup>1</sup>	Not supported	777385-B21 <sup>2</sup>	Embedded

<sup>1</sup> Part number 777382-B21 HP DL60/120 Gen9 4 LFF w/P440 Cbl Kit is required to upgrade from B140i to P440.

<sup>2</sup> Part number 777385-B21 HP DL60/120 Gen9 4 LFF w/H240 Cbl Kit is required to upgrade from B140i to H240.

**HP ProLiant ML350 Gen9**

	<b>H240ar</b>	<b>P440ar</b>	<b>P440</b>	<b>P840</b>	<b>H240</b>	<b>SAS Expander</b>	<b>B140i</b>
<b>SFF configuration</b>							
8 SFF drive	765652-B21 <sup>1</sup>	765652-B21 <sup>1</sup>	765650-B21	765650-B21	765648-B21	N/A	Embedded
16 SFF drive (8+8)	N/A	N/A	765650-B21	765650-B21	765648-B21	769635-B21 <sup>2,3</sup>	
24 SFF drive (8+8+8)	N/A	N/A	765650-B21	765650-B21	765648-B21	769635-B21 <sup>2,3</sup>	
32 SFF drive (8+8+8+8)	N/A	N/A	N/A	765650-B21	N/A	769635-B21 <sup>2,3</sup>	
40 SFF drive (8+8+8+8+8)	N/A	N/A	N/A	765650-B21	N/A	769635-B21 <sup>2,3</sup>	
48 SFF drive (8+8+8+8+8+8)	N/A	N/A	N/A	765650-B21	N/A	769635-B21 <sup>2,3</sup>	
<b>LFF configuration</b>							
8 LFF drive	765652-B21 <sup>1</sup>	765652-B21 <sup>1</sup>	N/A	N/A	N/A	N/A	Embedded
16 LFF drive (8+8)	N/A	N/A	765650-B21	765650-B21	765648-B21	769635-B21 <sup>2,3</sup>	
24 LFF drive (8+8+8)	N/A	N/A	765650-B21	765650-B21	765648-B21	769635-B21 <sup>2,3</sup>	

<sup>1</sup> B140i does not co-exist with H240ar or P440ar; cable kit part number 765652-B21 supports only H240ar and P440ar.

<sup>2</sup> 769635-B21 SAS Expander Card Kit cannot support H240ar or P440ar.

<sup>3</sup> 769635-B21 Expander kit contains three cables from expander card to HDD backplanes, and two cables from SA or HBA to expander card.

**HP ProLiant ML150 Gen9**

	<b>H240ar</b>	<b>P440ar</b>	<b>P440</b>	<b>P840</b>	<b>H240</b>	<b>SAS Expander</b>	<b>B140i<sup>1</sup></b>	
<b>SFF configuration</b>	8 SFF drive	Not supported	Not supported	784608-B21 <sup>3</sup>	784608-B21 <sup>3</sup>	784606-B21 <sup>2</sup> (quantity of 2)	Not supported	Embedded
	16 SFF drive (8+8)	Not supported	Not supported	N/A	784608-B21 <sup>3</sup> (quantity of 2)	N/A	Not supported	
<b>LFF configuration</b>	4 LFF NHP drive <sup>4</sup>	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Embedded
	8 LFF NHP drive <sup>4</sup>	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	
	4 LFF HP drive	Not supported	Not supported	784608-B21 <sup>3</sup>	N/A	784606-B21 <sup>2</sup>	Not supported	
	8 LFF HP drive	Not supported	Not supported	784608-B21 <sup>3</sup>	N/A	784606-B21 <sup>2</sup> (quantity of 2)	Not supported	
	10 LFF HP drive <sup>5</sup>	Not supported	Not supported	784608-B21 <sup>3</sup>	N/A	784606-B21 <sup>2</sup> (quantity of 2)	Not supported	

<sup>1</sup> B140i can't mix with any standup internal controller; this controller has to be disabled.

<sup>2</sup> Part number 784606-B21 HP ML150 Gen9 Mini SAS H240 Cable Kit is required when upgrading from the B140i to the H240.

<sup>3</sup> Part number 784608-B21 HP ML150 Gen9 Mini SAS P440/P840 Cable Kit is required when upgrading from the B140i to the P440 or the P840 Controller

<sup>4</sup> P440 and P840 are not supported on the NHP drive configurations.

<sup>5</sup> To support 10 LFF drives, two 4 LFF NHP drive cage and 10 LFF enablement kit part number 788567-B21 are required.


Additional notes:

- P440 or P840 BTO option kits do not include the HP Smart Storage Battery, the backup power source necessary to protect the data on the Flash-backed Write Cache. The part number for the HP Smart Storage Battery supporting the ML/DL servers is 727258-B21 and this battery has to be ordered. When adding these controllers during CTO, the battery will added by the CTO configuration rules.
- BTO = Build to Order
- CTO = Configure to Order



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