

NEXTSTEP for Intel Processors

Title: DPT 2021/90 and DPT 2021/95 ISA SCSI Adapters

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Product Vendor:

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The DPT 2021 SCSI Controller provides a ISA bus to SCSI bus interface. Some of the notable features of this card are:

- Support for up to 64MB of add-on RAM cache
- 10MB/sec ISA transfer
- ISA bus mastering

- SCSI-2 and Fast SCSI compliant
- 10MB/sec SCSI sync transfer
- Scatter/gather

Release 3.3

See NeXTanswers document 1830_DPT_SCSI_family_Driver_Overview.rtf

Release 3.2

NeXT has tested a DPT 2021 with BIOS revisions 2.A, 2.B, and 2.C and firmware revisions 5A.0, 5B.0, and 5C.0.

Setup and Installation:

The integrated floppy controller for the DPT 2021/95 card is not officially supported by NEXTSTEP. To disable the floppy controller, remove jumper Y20.

If you plan to use your DPT controller with one or more external devices, NeXT recommends enabling External Cable Detection by adding a jumper to Y39. This will have the effect of reducing the maximum SCSI bus transfer speed to 5MB/s when an external cable is attached. If you are confident that your cabling can handle a higher transfer rate, you may leave this option disabled.

If the DPT 2021 is not at the end of the SCSI bus, disable its active termination by removing jumper Y16. For more information on SCSI setup refer to NeXTanswer document 1109_SCSI_Setup.rtf

The DPT 2021 works correctly with the following default settings in Configure:

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DMA Channel: 5
Port Address: 0x170
IRQ Level: 15
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However, if you wish to use a different IRQ level to resolve conflicts in your system, NeXT's Quality

Assurance group has successfully tested the DPT 2021 using IRQ levels 12 and 14. Unless the Configure and jumper settings for IRQ level are identical, your system will hang during the boot process.

You shouldn't need to modify any jumper settings except for those listed above. However, for your reference, the following is a complete description of the DPT 2021 jumpers. The default settings are marked with an asterisk and illustrated in the diagram. For more information, see Appendix D of the DPT User's Manual.

Floppy Controller:	<u>Y20</u>	<u>Floppy Controller</u>
	ON	Enabled*
	OFF	Disabled

SCSI		
Termination Power:	<u>Y50</u>	<u>TERMPWR</u>
	ON	Enabled*
	OFF	Disabled

SCSI BIOS ROM :	<u>Y37</u>	<u>Y36</u>	<u>ROM Address</u>
	ON	ON	0xC800*
	OFF	ON	0xD800
	ON	OFF	0xDC00
	OFF	OFF	Disabled
	<u>Y38</u>	<u>ROM Size</u>	
	OFF	8K*	
	ON	16K	

I/O Address:	<u>Y35</u>	<u>Y33</u>	<u>I/O Address</u>
	ON	OFF	0x170*
	ON	ON	0x1F0
	OFF	OFF	0x230
	OFF	ON	0x330

DRQ:	<u>Y31</u>	<u>Y32</u>	<u>DMA Channel</u>
	ON	ON	DRQ 5*
	ON	OFF	DRQ 6
	OFF	ON	DRQ 7
	OFF	OFF	DRQ 0

IRQ:	<u>Y29</u>	<u>Y30</u>	<u>Interrupt Level</u>
	ON	OFF	IRQ 15*
	ON	ON	IRQ 14
	OFF	ON	IRQ 12
	OFF	OFF	Disabled

SCSI ID:	<u>Y25</u>	<u>Y18</u>	<u>Y26</u>	<u>SCSI ID</u>
	ON	ON	ON	7*
	OFF	ON	ON	6
	ON	OFF	ON	5
	OFF	OFF	ON	4
	ON	ON	OFF	3
	OFF	ON	OFF	2
	ON	OFF	OFF	1
	OFF	OFF	OFF	0

SCSI Termination:	<u>Y16</u>	<u>Termination</u>
	ON	Enabled*
	OFF	Disabled

External Cable Detection:	<u>Y39</u>	<u>Cable Detection</u>
	ON	Enabled
	OFF	Disabled*

DMA Speed Options:	<u>Y12</u>	<u>Y13</u>	<u>Y14</u>	<u>DMA Transfer Rate (MB/s)</u>
	OFF	OFF	OFF	10
	ON	OFF	OFF	8
	OFF	ON	OFF	6.667
	ON	ON	OFF	5.7
	OFF	OFF	ON	5.0*
	ON	OFF	ON	4.4
	OFF	ON	ON	4.0
	ON	ON	ON	3.0

<u>Y15</u>	<u>Mode</u>	<u>Bus-On Time</u>	<u>Bus-Off Time</u>
OFF	Fastest	12.8μs	0.8μs*
ON	Slowest	6.4μs	1.6μs

LA/SA17-19 Lines:	<u>Y19</u>	<u>Address Lines Driven</u>
	ON	SA17-19 and LA17-19*
	OFF	Only LA17-19

ISA Bus Mastering Enable:	<u>Y24</u>	<u>Bus Mastering</u>
	ON	Enabled*
	OFF	Disabled

Known Problems:

Release 3.1

- The DPT 2011 is unsupported in NEXTSTEP Release 3.1.