



CRU-DataPort 6Gb/s testing and recommendations for Digital Cinema Sept 2011

CRU-DataPort's most recent testing with the new SATA 6Gb/s disk drive technology has shown intermittent issues that may result in the DX115 DC and certain external DC 2, 4 & 8 bay RAX products to not operate as expected. Please review the most current test results and recommendations below.

For the DX115 DC Frame and Carrier p/ns (6600-7100-0500, 6602-7100-0500 & 6601-7100-0500):

- The DX115 DC has shown intermittent issues when using a 6Gb/s SATA Disk Drive and 6Gb/s SATA Host
- The DX115 DC is compatible with 6Gb/s drives when connected to a 3Gb/s SATA Host

***CRU-DataPort Recommendation: Use only 3Gb/s SATA Host Controllers. There is no difference in streaming read speed when comparing a single 6Gb/s Drive running on a 3Gb/s vs 6Gb/s SATA bus. Please see Table 1 below for testing results.*

For the DX115 DC Carrier (6601-7100-0500) with USB/SATA Move Dock (6603-57XX-0X00) Combo:

- The DX115 DC Carrier with USB/SATA Move Dock Adapter Combo is compatible with 6Gb/s Disk Drives
- The DX115 DC Carrier with USB/SATA Move Dock Adapter Combo is compatible with 6Gb/s SATA Hosts
- The USB 2.0 Port on the Move Dock Adapter will run at standard USB 2.0 speeds
- The SATA Port on the Move Dock Adapter will run at 1.5Gb/s SATA speeds

***CRU-DataPort Recommendation: There are no known issues with this setup. However, since it is the "DC Distributors" who have this set up - it is recommended to ensure that all new 6Gb/s SATA Disk Drives have the most recent firmware revisions available by the disk drive manufacture. This has shown to help with some of the issues experienced when the DX115 DC Carriers are directly installed into a DX115 DC Receiving Frame located in a DC Server that is running 6Gb/s SATA.*

For the 2, 4 and 8 bay Digital Cinema RAX (40490-XXXX-XXXX, 40210-XXXX-XXXX & 40610-XXXX-XXXX):

- The "SV" (eSATA Port Multiplier) is compatible with 6Gb/s disk drives and 6Gb/s SATA Hosts but will operate at 3Gb/s speeds
- The "NJ" (SFF- 8470) is compatible with 6Gb/s disk drives but **MUST** be used with a 3Gb/s SATA:SAS Host and will operate at 3Gb/s speed. We have seen issues when connected to a 6Gb/s Host and using 6Gb/s disk drives. As long as the host controller being used is 3Gb/s, you are ok.
- The "XJ" (SFF- 8088) is compatible with 6Gb/s disk drives and operates at 6Gb/s speeds with validated HBA. It is also compatible with 3Gb/s Hosts running at 3Gb/s.

***CRU-DataPort Recommendation: The LSI 9200 SATA:SAS Host Controllers have proven to be the most reliable for operating at 6Gb/s.*

The CRU-DataPort Engineering Dept is currently researching the following solutions:

- A DX115 DC that is backwardly compatible with existing DX115 DC, accepts 6Gb/s drives and hosts operating at 6Gb/s.
- A DX115 DC that is backwardly compatible with existing DX115 DC, accepts 6Gb/s drives and hosts - but will operate at 3Gb/s.

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Table 1: Western Digital 6Gb/s Drive Performance				
Host Speed (System Port)	Interconnect	Hard Drive Speed Western Digital WD6402AAEX	Interface Negotiation Speed	Streaming Read Speed (MB/s)
3 Gb/s	Direct to hard drive	6 Gb/s	3 Gb/s	117.67
3 Gb/s	DX115 DC	6 Gb/s	3 Gb/s	118.54
6 Gb/s	Direct to hard drive	6 Gb/s	6 Gb/s	119.04
6 Gb/s	DX115 DC	6 Gb/s	6 Gb/s	119.06
3 Gb/s	Direct to hard drive	Jumpered to 3 Gb/s	3 Gb/s	119.05
3 Gb/s	DX115 DC	Jumpered to 3 Gb/s	3 Gb/s	119.05
6 Gb/s	Direct to hard drive	Jumpered to 3 Gb/s	3 Gb/s	119.10
6 Gb/s	DX115 DC	Jumpered to 3 Gb/s	3 Gb/s	119.04

If you have any additional questions, please contact me directly.

Thank you - Keith

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