

Lenovo RDX USB 3.0 Disk Backup Solution Product Guide

The new Lenovo Removable Disk EXchange (RDX) USB 3.0 removable disk backup solution for Lenovo servers is designed to address your increasing capacity and backup requirements, and reliably and cost-effectively protect your business valuable assets, while alleviating the deployment and management complexity of traditional tape drives. It uses a rugged removable disk cartridge and docking station to provide an easy-to-use, highly secure, fast, and portable answer to your data protection concerns.



Figure 1. Lenovo RDX USB 3.0 internal and external drives and cartridges

Did you know?

The Lenovo RDX solution provides all the benefits of disk, with fast, random access to data and drag-and-drop functionality, in addition to the historic portability and durability benefits of tape. Designed for portability and longevity, the rugged RDX cartridges are engineered to be durable so you can safely transport them off-site while providing the shelf life required for archival requirements.

RDX features high-capacity shock-resistant cartridges with up to 2.0 TB capacity, making your storage options extremely flexible. Each cartridge is ruggedized to withstand a drop from up to 0.9 meters (36 in.) without damage. The RDX USB 3.0 docking stations are offered in external stand-alone and internal 5.25-inch half-height units to seamlessly integrate into your Lenovo server environment. The USB interface ensures a simple installation while providing high performance, with sustained transfer rates of up to 96 MBps.

Part number information

The following table provides the ordering part numbers and feature codes for the RDX USB 3.0 disk backup options.

Table 1. ThinkSystem part numbers and feature codes

Part number	Feature	Description
Internal RDX docks		
7T27A01501	AVF6	ThinkSystem Internal RDX USB 3.0 Drive (No cartridge included with the drive)
External RDX docks		
4T27A10725	B32R	ThinkSystem RDX External USB 3.0 Dock (No cartridge included with the drive)
Cartridges		
7TP7A01601	AVF8	ThinkSystem RDX 500GB Cartridge
7TP7A01602	AVF1	ThinkSystem RDX 1TB Cartridge
7TP7A01603	AVF0	ThinkSystem RDX 2TB Cartridge
7TP7A04318	AXD1	ThinkSystem RDX 4TB Cartridge

Table 2. System x part numbers and feature codes

Part number	Feature	Description
External RDX docks		
00YD051	AWGA	RDX External USB 3.0 Dock (No cartridge included with the drive)
00YD052	AWGB	RDX External USB 3.0 Dock with 500GB Cartridge
00YD053	AWGC	RDX External USB 3.0 Dock with 1TB Cartridge
Internal RDX docks		
00D2785*	ATU1	RDX Internal USB 3.0 Dock (No cartridge included with the drive)
None	A2U7*	RDX 3 Internal USB Drive (dock/carrier) (No cartridge included - for CTO only)
00D2787*	A2VF	RDX Internal USB 3.0 Dock with 500GB Cartridge
00D2788*	A2VG	RDX Internal USB 3.0 Dock with 1TB Cartridge
Cartridges		
00YL048	ATTD	RDX 500 GB Cartridge
00YL047	ATTE	RDX 1 TB Cartridge
00KC506	AS3K	RDX 2 TB Cartridge
External cables		
None	A2X3	3 Meter External USB 3 cable (USB type B-A)
Internal cables		
None	9266	1 meter internal USB cable (USB type B-A)

* Withdrawn from marketing

Table 3. ThinkServer part numbers

Part number	Description
External RDX docks	
4XF0G88929	RDX External USB 3.0 Dock (No cartridge included with the drive)
Internal RDX docks for use in System x and ThinkServer systems	
4XF0F28769* 4XF0G88944	RDX Internal USB 3.0 Dock (No cartridge included with the drive)
Cartridges	
4XB0F28660	RDX 1 TB Cartridge
4XB0G88711	RDX 2 TB Cartridge

* Withdrawn from marketing

The internal dock part numbers include the following items:

- One internal carrier/dock (drive) to fit into a 5.25-inch HH bay
- One data cartridge (capacity varies, not included with 00D2785 or 4XF0F28769)
- Cables for part numbers 00D2786, 00D2787, 00D2788, and 00D2785:
 - 12.5-inch USB cable with type B-1x6 connector
 - 1 meter USB cable with type B-A connector
- Cables for part number 4XF0F28769:
 - 0.7m USB cable with USB type B connector
- Documentation and mounting hardware

The external dock part numbers include the following items:

- One external carrier/dock (drive)
- One cartridge (some part numbers; see the above tables)
- External USB 3 cable (4XF0G88929 includes a 0.8m cable, all others include a 3.0m cable)
- Documentation

Note: The external docks do not require an AC adapter. Power is supplied via the USB 3 cable.

The part numbers for the RDX cartridges include the following item:

- One cartridge

Features

The RDX USB 3.0 drives have the following features:

- Affordable capacity: Up to 4.0 TB disk cartridges.
- Simplicity: With only the native OS, RDX provides random access to data and the convenience of drag-and-drop functionality through persistent drive letter access. It can also be addressed like traditional removable tape media, when used in conjunction with any of the supported backup applications.
- Flexibility: Internal and external RDX installation alternatives.
- Plug-and-Play connectivity: USB 3.0 interface for increased ease of use.
- Inexpensive performance: USB sustained transfer rate of up to 96 MBps.
- Portability and durability: RDX disk cartridges are shock-resistant, rugged, and removable for safely transporting offsite. Each is ruggedized to withstand a drop from up to 0.9 meters (36 in.) without damage.
- Investment protection: The carrier supports next generation capacities of cartridges.
- Effortless ordering: Internal and external single-cartridge bundles by capacity; additional cartridges can be ordered separately.
- Secure: Cartridges can be password protected and software encrypted for extra security.

Specifications

The RDX drives have the following specifications:

- Up to 96 MBps native USB transfer rate
- Up to 4.0 TB native capacity
- Hot-plug capability
- 5.25-inch Internal form factor, convertible to 3.5-inch form factor in certain configurations
- External USB stand-alone offering or internal docks can be used with external enclosure

Server support - ThinkSystem

The following table lists the ThinkSystem servers that are compatible.

Table 4. ThinkSystem server support

Description and part number	E	1S Intel				2S Intel								AMD	4S Intel			Dense/ Blade				
	SE350 (7Z46 / 7D1X)	ST50 (7Y48/7Y50)	ST250 (7Y45/7Y46)	SR150 (7Y54)	SR250 (7Y51/7Y52)	ST550 (7X09/7X10)	SR530 (7X07/7X08)	SR550 (7X03/7X04)	SR570 (7Y02/7Y03)	SR590 (7X98/7X99)	SR630 (7X01/7X02)	SR650 (7X05/7X06)	SR670 (7Y36/7Y37/7Y38)	SR635 (7Y98 / 7Y99)	SR655 (7Y00 / 7Z01)	SR850 (7X18/7X19)	SR860 (7X69/7X70)	SR950 (7X11/12/13)	SD530 (7X21)	SD650 (7X58)	SN550 (7X16)	SN850 (7X15)
TD USB3.0 RDX Drive Internal, 7T27A01501	N	Y	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
ThinkSystem RDX External USB 3.0 Dock, 4T27A10725	N	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N
ThinkSystem RDX 500GB Cartridge, 7TP7A01601	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N
ThinkSystem RDX 1TB Cartridge, 7TP7A01602	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N
ThinkSystem RDX 2TB Cartridge, 7TP7A01603	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N
ThinkSystem RDX 4TB Cartridge, 7TP7A04318	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N

Server support - System x

The RDX Internal and External USB 3.0 Docks are supported in the servers listed in the following tables.

Note: The RDX Internal Dock is also supported installed in the IBM Multimedia Enclosure for Lenovo, as described in the Lenovo Press product guide, available from:

<https://lenovopress.com/tips1306-multimedia-enclosure>

Support for System x and dense servers with Intel Xeon v4 & v5 processors

Table 5. Support for System x and dense servers with Intel Xeon v4 & v5 processors

Description	x3250 M6 (3943)	x3250 M6 (3633)	x3550 M5 (8869)	x3650 M5 (8871)	x3850 X6/x3950 X6 (6241, E7 v4)	nx360 M5 (5465, E5-2600 v4)	sd350 (5493)
RDX Internal USB 3.0 Dock	N	N	N	N	N	N	N
RDX External USB 3.0 Dock	Y	Y	Y	Y	Y	Y	N

Support for System x servers with Intel Xeon v3 processors

Table 6. Supported servers: System x servers with v3 processors

Description	x3100 M5 (5457)	x3250 M5 (5458)	x3500 M5 (5464)	x3550 M5 (5463)	x3650 M5 (5462)	x3850 X6/x3950 X6 (6241, E7 v3)	nx360 M5 (5465)
RDX Internal USB 3.0 Dock	Y	N	Y	N	N	N	N
RDX External USB 3.0 Dock	Y	Y	Y	Y	Y	Y	Y

Support for System x servers with Intel Xeon v2 processors

Table 7. Supported servers: System x servers with v2 processors

Description	x3500 M4 (7383, E5-2600 v2)	x3530 M4 (7160, E5-2400 v2)	x3550 M4 (7914, E5-2600 v2)	x3630 M4 (7158, E5-2400 v2)	x3650 M4 (7915, E5-2600 v2)	x3650 M4 BD (5466)	x3650 M4 HD (5460)	x3750 M4 (8752)	x3750 M4 (8753)	x3850 X6/x3950 X6 (3837)	x3850 X6/x3950 X6 (6241, E7 v2)	dx360 M4 (E5-2600 v2)	nx360 M4 (5455)
RDX Internal USB 3.0 Dock	Y	N	N	N	Y	N	N	N	N	N	N	N	N
RDX External USB 3.0 Dock	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Support for System x servers with Intel Xeon v1 processors

Table 8. Supported servers: System x servers with v1 processors

Description	x3100 M4 (2582)	x3250 M4 (2583)	x3300 M4 (7382)	x3500 M4 (7383, E5-2600)	x3530 M4 (7160, E5-2400)	x3550 M4 (7914, E5-2600)	x3630 M4 (7158, E5-2400)	x3650 M4 (7915, E5-2600)	x3690 X5 (7147)	x3750 M4 (8722)	x3850 X5 (7143)	dx360 M4 (7912, E5-2600)
RDX Internal USB 3.0 Dock	Y	N	Y	Y	N	N	N	Y	N	N	N	N
RDX External USB 3.0 Dock	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

For the latest information about the devices supported by System x servers, see ServerProven: <http://www.lenovo.com/us/en/serverproven/xseries/storage/tmatrix.shtml>

Server support - ThinkServer

The following tables show the ThinkServer systems that support the RDX drives.

Support for ThinkServer Generation 5 servers

Table 9. Supported servers: ThinkServer Generation 5 servers

Part number	Description	TS150	TS450	TS460	RS160	TD350	RD350	RD450	RD550	RD650
4XF0F28769	ThinkServer Internal RDX Tape Drive	Y	Y	N	N	N	N	N	N	N
4XF0G88944	ThinkServer Internal RDX Tape Drive	N	N	Y	N	N	N	N	N	N
4XF0G88929	ThinkServer External RDX Tape Drive	N	Y	N	N	Y	N	Y	N	N

Support for ThinkServer Generation 4 servers

Table 10. Support for ThinkServer Generation 4 servers

Part number	Description	TS140	TS440	TD340	RS140	RD340	RD440	RD540	RD640
4XF0F28769	ThinkServer Internal RDX Tape Drive	Y	Y	Y	N	N	N	N	N
4XF0G88944	ThinkServer Internal RDX Tape Drive	N	N	N	N	N	N	N	N
4XF0G88929	ThinkServer External RDX Tape Drive	N	Y	N	Y	N	N	N	N

For ThinkServer compatibility, see the Lenovo ThinkServer Options Compatibility Matrix at: <http://www.lenovo.com/accessoriesguide>

System x Internal installation

For System x servers, the RDX Internal USB 3.0 Dock can be installed internally in specific servers, as listed in the [Supported Servers](#) section. The following table lists the cable needed to connect the drive. In the case of the x3650 M4, an enablement kit is required. For all other servers, the drive is installed with only the addition of a USB cable.

Table 11. Internal cable support

Internal cable	Part number	Feature code	x3100 M5 (5457)	x3500 M5 (5464)	x3500 M4 (7383, E5-2600 v2)	x3650 M4 (7915, E5-2600 v2)	x3100 M4 (2582)	x3300 M4 (7382)	x3500 M4 (7383, E5-2600)	x3650 M4 (7915, E5-2600)
1 meter internal USB cable (USB type B-A)	None*	9266	Y	Y	Y	N	Y	Y	Y	N
x3650 M4 Tape Enablement Kit	69Y5320	A1L6	N	N	N	Y	N	N	N	Y

* This USB cable is included with option part numbers 00D2786, 00D2787, 00D2788, and 00D2785

Physical specifications

RDX Internal USB 3.0 Dock:

- Height: 41 mm (1.6 in.)
- Width: 146 mm (5.75 in.)
- Depth: 172 mm (6.8 in.), including bezel
- Weight: 635 g (1.4 lb)

RDX USB 3.0 Dock (external):

- Height: 52 mm (2.0 in)
- Width: 110 mm (4.3 in)
- Depth: 177 mm (7.0 in), including bezel
- Weight: 540 g (1.2 lb)

RDX cartridge:

- Height: 24 mm (0.9 in.)
- Width: 87 mm (3.4 in.)
- Depth: 119 mm (4.7 in.)
- Weight: 173 g (0.4 lb)

Operating environment

The RDX USB 3.0 drives are supported in this environment:

- Temperature:
 - Operating: 10° to 40°C (50° to 104°F)
 - Non-operating: -40° to 65°C (-40° to 149°F)
- Relative humidity:
 - Operating: 20% to 80% (non-condensing)
 - Non-operating: 10% to 90% (non-condensing)

Supported software products

The RDX USB 3.0 drives support the following software products:

- NetVault Backup
- ARCserve Backup
- EMC Networker Backup and Recovery (does not support removable disk)
- Symantec Backup Exec
- IBM Tivoli Storage Manager
- Barracuda Yosemite Server Backup

Supported operating systems

The RDX USB 3.0 drives support the following operating systems:

- Windows Server 2003
- Windows Server 2003 R2
- Windows Server 2008
- Windows Server 2008 R2
- Windows Server 2012
- Windows Server 2012 R2
- Windows Server 2016
- Windows Small Business Server 2008
- Windows Small Business Server 2011
- Red Hat Enterprise Linux
- SUSE Linux Enterprise Server

Not supported in guest OSes: The RDX drives are supported when attached and run from these host operating system, however, in virtualization environments (for example, Hyper-V, Xen, KVM), the tape drives are not supported in the guest operating systems.

Note: VMware ESXi 4.x and 5.x are not supported as per RETAIN tip H206360:

<http://ibm.com/support/entry/portal/docdisplay?Indocid=MIGR-5091279>

For the latest information about the specific versions and service packs supported, see ServerProven:

<http://www.lenovo.com/us/en/serverproven/>

Warranty

RDX drives carry a one-year limited warranty. When installed in or connected to a supported Lenovo server, the RDX drive assumes the server's base warranty and any Lenovo Services warranty upgrade.

The RDX cartridges are considered consumable media and are not covered by the RDX product warranty.

Related publications

For more information, refer to these documents:

- RDX Backup Solutions for System x:
<https://www3.lenovo.com/us/en/data-center/servers/server-options/system-x-options/server-storage/backup-and-archive-storage/rdx-removable-disk/c/rdx-removable>
- User's Guide for the Lenovo RDX USB 3.0 Disk Solution:
<https://ibm.com/support/entry/portal/docdisplay?Indocid=MIGR-5088910>
- Lenovo ServerProven for System x options
<https://static.lenovo.com/us/en/serverproven/options.shtml>
- Lenovo ThinkServer Options Compatibility Matrix (OCM)
<http://www.lenovo.com/accessoriesguide>
- U.S. Announcement Letters:
<http://ibm.com/common/ssi/cgi-bin/ssialias?infotype=dd&subtype=ca&&htmlfid=897/ENUS112-046>
<http://ibm.com/common/ssi/cgi-bin/ssialias?infotype=dd&subtype=ca&&htmlfid=897/ENUS112-227>

Related product families

Product families related to this document are the following:

- [Backup Units](#)

Notices

Lenovo may not offer the products, services, or features discussed in this document in all countries. Consult your local Lenovo representative for information on the products and services currently available in your area. Any reference to a Lenovo product, program, or service is not intended to state or imply that only that Lenovo product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any Lenovo intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any other product, program, or service. Lenovo may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

Lenovo (United States), Inc.
1009 Think Place - Building One
Morrisville, NC 27560
U.S.A.
Attention: Lenovo Director of Licensing

LENOVO PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. Lenovo may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

The products described in this document are not intended for use in implantation or other life support applications where malfunction may result in injury or death to persons. The information contained in this document does not affect or change Lenovo product specifications or warranties. Nothing in this document shall operate as an express or implied license or indemnity under the intellectual property rights of Lenovo or third parties. All information contained in this document was obtained in specific environments and is presented as an illustration. The result obtained in other operating environments may vary. Lenovo may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Any references in this publication to non-Lenovo Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this Lenovo product, and use of those Web sites is at your own risk. Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

© Copyright Lenovo 2019. All rights reserved.

This document, TIPS0894, was created or updated on October 9, 2019.

Send us your comments in one of the following ways:

- Use the online Contact us review form found at:
<http://lenovopress.com/TIPS0894>
- Send your comments in an e-mail to:
comments@lenovopress.com

This document is available online at <http://lenovopress.com/TIPS0894>.

Trademarks

Lenovo and the Lenovo logo are trademarks or registered trademarks of Lenovo in the United States, other countries, or both. A current list of Lenovo trademarks is available on the Web at <https://www.lenovo.com/us/en/legal/copytrade/>.

The following terms are trademarks of Lenovo in the United States, other countries, or both:

Lenovo Services

Lenovo®

ServerProven®

System x®

ThinkServer®

ThinkSystem

X5

The following terms are trademarks of other companies:

Intel® and Xeon® are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Linux® is a trademark of Linus Torvalds in the United States, other countries, or both.

Hyper-V®, Windows Server®, and Windows® are trademarks of Microsoft Corporation in the United States, other countries, or both.

Other company, product, or service names may be trademarks or service marks of others.