

# Dell™ PowerVault™ 132T Tape Library User's Guide

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*Initial release: September 2002*  
*Last revised: February 2006*

## Contacting Dell: Dell PowerVault 132T Tape Library User's Guide

To contact Dell electronically, you can access the following websites:

- 1 [www.dell.com](http://www.dell.com)
- 1 [support.dell.com](http://support.dell.com) (technical support)
- 1 [premiersupport.dell.com](http://premiersupport.dell.com) (technical support for educational, government, healthcare, and medium/large business customers, including Premier, Platinum, and Gold customers)

For specific web addresses for your country, find the appropriate country section in the table below.

 **NOTE:** Toll-free numbers are for use within the country for which they are listed.

When you need to contact Dell, use the electronic addresses, telephone numbers, and codes provided in the following table. If you need assistance in determining which codes to use, contact a local or an international operator.

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
<b>Anguilla</b>	General Support	toll-free: 800-335-0031
<b>Antigua and Barbuda</b>	General Support	1-800-805-5924
<b>Argentina (Buenos Aires)</b>  International Access Code: <b>00</b>  Country Code: <b>54</b>  City Code: <b>11</b>	Website: <a href="http://www.dell.com.ar">www.dell.com.ar</a>	
	Tech Support and Customer Care	toll-free: 0-800-444-0733
	Sales	0-810-444-3355
	Tech Support Fax	<b>11 4515 7139</b>
	Customer Care Fax	<b>11 4515 7138</b>
<b>Aruba</b>	General Support	toll-free: 800-1578
<b>Australia (Sydney)</b>  International Access Code: <b>0011</b>  Country Code: <b>61</b>  City Code: <b>2</b>	E-mail (Australia): <a href="mailto:au_tech_support@dell.com">au_tech_support@dell.com</a>	
	E-mail (New Zealand): <a href="mailto:nz_tech_support@dell.com">nz_tech_support@dell.com</a>	
	Home and Small Business	1-300-65-55-33
	Government and Business	toll-free: 1-800-633-559
	Preferred Accounts Division (PAD)	toll-free: 1-800-060-889
	Customer Care	toll-free: 1-800-819-339
	Corporate Sales	toll-free: 1-800-808-385
	Transaction Sales	toll-free: 1-800-808-312
Fax	toll-free: 1-800-818-341	
<b>Austria (Vienna)</b>  International Access Code: <b>900</b>  Country Code: <b>43</b>  City Code: <b>1</b>	Website: <a href="http://support.euro.dell.com">support.euro.dell.com</a>	
	E-mail: <a href="mailto:tech_support_central_europe@dell.com">tech_support_central_europe@dell.com</a>	
	Home/Small Business Sales	0820 240 530 00
	Home/Small Business Fax	0820 240 530 49
	Home/Small Business Customer Care	0820 240 530 14
	Preferred Accounts/Corporate Customer Care	0820 240 530 16
	Home/Small Business Technical Support	0820 240 530 14
	Preferred Accounts/Corporate Technical Support	<b>0660 8779</b>
Switchboard	0820 240 530 00	
<b>Bahamas</b>	General Support	toll-free: 1-866-278-6818
<b>Barbados</b>	General Support	1-800-534-3066
<b>Belgium (Brussels)</b>  International Access Code: <b>00</b>  Country Code: <b>32</b>  City Code: <b>2</b>	Website: <a href="http://support.euro.dell.com">support.euro.dell.com</a>	
	E-mail: <a href="mailto:tech_be@dell.com">tech_be@dell.com</a>	
	E-mail for French Speaking Customers: <a href="http://support.euro.dell.com/be/fr/emaildell/">support.euro.dell.com/be/fr/emaildell/</a>	
	Technical Support	<b>02 481 92 88</b>
	Customer Care	<b>02 481 91 19</b>
	Corporate Sales	<b>02 481 91 00</b>
	Fax	<b>02 481 92 99</b>
Switchboard	<b>02 481 91 00</b>	
<b>Bermuda</b>	General Support	1-800-342-0671

<b>Bolivia</b>	General Support	toll-free: 800-10-0238
<b>Brazil</b>	Website: <a href="http://www.dell.com/br">www.dell.com/br</a>	
International Access Code: <b>00</b>	Customer Support, Technical Support	0800 90 3355
Country Code: <b>55</b>	Tech Support Fax	51 481 5470
City Code: <b>51</b>	Customer Care Fax	51 481 5480
	Sales	0800 90 3390
<b>British Virgin Islands</b>	General Support	toll-free: 1-866-278-6820
<b>Brunei</b>	Customer Technical Support (Penang, Malaysia)	604 633 4966
Country Code: <b>673</b>	Customer Service (Penang, Malaysia)	604 633 4949
	Transaction Sales (Penang, Malaysia)	604 633 4955
<b>Canada (North York, Ontario)</b>	Online Order Status: <a href="http://www.dell.ca/ostatus">www.dell.ca/ostatus</a>	
International Access Code: <b>011</b>	AutoTech (automated technical support)	toll-free: 1-800-247-9362
	TechFax	toll-free: 1-800-950-1329
	Customer Care (home/small business)	toll-free: 1-800-847-4096
	Customer Care (med./ large business, government)	toll-free: 1-800-326-9463
	Technical Support (home/small business)	toll-free: 1-800-847-4096
	Technical Support (med./ large business, gov.)	toll-free: 1-800-387-5757
	Sales (Home Sales/ Small Business)	toll-free: 1-800-387-5752
	Sales (med./large bus., government)	toll-free: 1-800-387-5752
	Spare Parts Sales & Extended Service Sales	1-866-440-3355
<b>Cayman Islands</b>	General Support	1-800-805-7541
<b>Chile (Santiago)</b>	Sales, Customer Support, and Technical Support	toll-free: 1230-020-4823
Country Code: <b>56</b>		
City Code: <b>2</b>		
<b>China (Xiamen)</b>	Tech Support website: <a href="http://support.ap.dell.com/china">support.ap.dell.com/china</a>	
Country Code: <b>86</b>	Tech Support E-mail: <a href="mailto:cn_support@dell.com">cn_support@dell.com</a>	
City Code: <b>592</b>	Tech Support Fax	818 1350
	Home and Small Business Technical Support	toll-free: 800 858 2437
	Corporate Accounts Technical Support	toll-free: 800 858 2333
	Customer Experience	toll-free: 800 858 2060
	Home and Small Business	toll-free: 800 858 2222
	Preferred Accounts Division	toll-free: 800 858 2062
	Large Corporate Accounts GCP	toll-free: 800 858 2055
	Large Corporate Accounts Key Accounts	toll-free: 800 858 2628
	Large Corporate Accounts North	toll-free: 800 858 2999
	Large Corporate Accounts North Government and Education	toll-free: 800 858 2955
	Large Corporate Accounts East	toll-free: 800 858 2020
	Large Corporate Accounts East Government and Education	toll-free: 800 858 2669
	Large Corporate Accounts Queue Team	toll-free: 800 858 2572
	Large Corporate Accounts South	toll-free: 800 858 2355
	Large Corporate Accounts West	toll-free: 800 858 2811
	Large Corporate Accounts Spare Parts	toll-free: 800 858 2621
<b>Colombia</b>	General Support	980-9-15-3978
<b>Costa Rica</b>	General Support	0800-012-0435
<b>Czech Republic (Prague)</b>	Website: <a href="http://support.euro.dell.com">support.euro.dell.com</a>	
International Access Code: <b>00</b>	E-mail: <a href="mailto:czech_dell@dell.com">czech_dell@dell.com</a>	
Country Code: <b>420</b>	Technical Support	02 22 83 27 27
City Code: <b>2</b>	Customer Care	02 22 83 27 11
	Fax	02 22 83 27 14
	TechFax	02 22 83 27 28
	Switchboard	02 22 83 27 11
<b>Denmark (Copenhagen)</b>	Website: <a href="http://support.euro.dell.com">support.euro.dell.com</a>	
International Access Code: <b>00</b>	E-mail Support (portable computers): <a href="mailto:den_nbk_support@dell.com">den_nbk_support@dell.com</a>	
Country Code: <b>45</b>	E-mail Support (desktop computers): <a href="mailto:den_support@dell.com">den_support@dell.com</a>	
	E-mail Support (servers): <a href="mailto:Nordic_server_support@dell.com">Nordic_server_support@dell.com</a>	
	Technical Support	7023 0182

	Customer Care (Relational)	7023 0184
	Home/Small Business Customer Care	3287 5505
	Switchboard (Relational)	3287 1200
	Fax Switchboard (Relational)	3287 1201
	Switchboard (Home/Small Business)	3287 5000
	Fax Switchboard (Home/Small Business)	3287 5001
<b>Dominica</b>	General Support	toll-free: 1-866-278-6821
<b>Dominican Republic</b>	General Support	1-800-148-0530
<b>Ecuador</b>	General Support	toll-free: 999-119
<b>El Salvador</b>	General Support	01-899-753-0777
<b>Finland (Helsinki)</b>	Website: <a href="http://support.euro.dell.com">support.euro.dell.com</a>	
International Access Code: <b>990</b>	E-mail: <a href="mailto:fin_support@dell.com">fin_support@dell.com</a>	
Country Code: <b>358</b>	E-mail Support (servers): <a href="mailto:Nordic_support@dell.com">Nordic_support@dell.com</a>	
City Code: <b>9</b>	Technical Support	09 253 313 60
	Technical Support Fax	09 253 313 81
	Relational Customer Care	09 253 313 38
	Home/Small Business Customer Care	09 693 791 94
	Fax	09 253 313 99
	Switchboard	09 253 313 00
<b>France (Paris) (Montpellier)</b>	Website: <a href="http://support.euro.dell.com">support.euro.dell.com</a>	
International Access Code: <b>00</b>	E-mail: <a href="mailto:support.euro.dell.com/fr/fr/emaildell/">support.euro.dell.com/fr/fr/emaildell/</a>	
Country Code: <b>33</b>	<b>Home and Small Business</b>	
City Codes: <b>(1) (4)</b>	Technical Support	0825 387 270
	Customer Care	0825 823 833
	Switchboard	0825 004 700
	Switchboard (calls from outside of France)	04 99 75 40 00
	Sales	0825 004 700
	Fax	0825 004 701
	Fax (calls from outside of France)	04 99 75 40 01
	<b>Corporate</b>	
	Technical Support	0825 004 719
	Customer Care	0825 338 339
	Switchboard	01 55 94 71 00
	Sales	01 55 94 71 00
	Fax	01 55 94 71 01
<b>Germany (Langen)</b>	Website: <a href="http://support.euro.dell.com">support.euro.dell.com</a>	
International Access Code: <b>00</b>	E-mail: <a href="mailto:tech_support_central_europe@dell.com">tech_support_central_europe@dell.com</a>	
Country Code: <b>49</b>	Technical Support	06103 766-7200
City Code: <b>6103</b>	Home/Small Business Customer Care	0180-5-224400
	Global Segment Customer Care	06103 766-9570
	Preferred Accounts Customer Care	06103 766-9420
	Large Accounts Customer Care	06103 766-9560
	Public Accounts Customer Care	06103 766-9555
	Switchboard	06103 766-7000
<b>Greece</b>	Website: <a href="http://support.euro.dell.com">support.euro.dell.com</a>	
International Access Code: <b>00</b>	E-mail: <a href="mailto:support.euro.dell.com/gr/en/emaildell">support.euro.dell.com/gr/en/emaildell</a>	
Country Code: <b>30</b>	Technical Support	080044149518
	Gold Technical Support	08844140083
	Switchboard	2108129800
	Sales	2108129800
	Fax	2108129812
<b>Grenada</b>	General Support	toll-free: 1-866-540-3355
<b>Guatemala</b>	General Support	1-800-999-0136
<b>Guyana</b>	General Support	toll-free: 1-877-270-4609
<b>Hong Kong</b>	Website: <a href="http://support.ap.dell.com">support.ap.dell.com</a>	
International Access Code: <b>001</b>	E-mail: <a href="mailto:ap_support@dell.com">ap_support@dell.com</a>	

Country Code: <b>852</b>	Technical Support (Dimension™ and Inspiron™)	296 93188	
	Technical Support (OptiPlex™, Latitude™, and Dell Precision™)	296 93191	
	Customer Service (non-technical, post-sales issues)	800 93 8291	
	Transaction Sales	toll-free: 800 96 4109	
	Large Corporate Accounts HK	toll-free: 800 96 4108	
	Large Corporate Accounts GCP HK	toll-free: 800 90 3708	
<b>India</b>	Technical Support	1600 33 8045	
	Sales	1600 33 8044	
<b>Ireland (Cherrywood)</b>	Website: <a href="http://support.euro.dell.com">support.euro.dell.com</a>		
International Access Code: <b>16</b>	E-mail: <a href="mailto:dell_direct_support@dell.com">dell_direct_support@dell.com</a>		
Country Code: <b>353</b> City Code: <b>1</b>	Ireland Technical Support	1850 543 543	
	U.K. Technical Support (dial within U.K. only)	0870 908 0800	
	Home User Customer Care	01 204 4095	
	Small Business Customer Care	01 204 4444	
	U.K. Customer Care (dial within U.K. only)	0870 906 0010	
	Corporate Customer Care	01 204 4003	
	Ireland Sales	01 204 4444	
	U.K. Sales (dial within U.K. only)	0870 907 4000	
	SalesFax	01 204 0144	
	Fax	01 204 5960	
	Switchboard	01 204 4444	
	<b>Italy (Milan)</b>	Website: <a href="http://support.euro.dell.com">support.euro.dell.com</a>	
		International Access Code: <b>00</b>	E-mail: <a href="mailto:support.euro.dell.com/it/it/emaildell/">support.euro.dell.com/it/it/emaildell/</a>
Country Code: <b>39</b>		<b>Home and Small Business</b>	
		Technical Support	02 577 826 90
City Code: <b>02</b>		Customer Care	02 696 821 14
		Fax	02 696 821 13
		Switchboard	02 696 821 12
		<b>Corporate</b>	
		Technical Support	02 577 826 90
		Customer Care	02 577 825 55
		Fax	02 575 035 30
		Switchboard	02 577 821
<b>Jamaica</b>		General Support (dial from within Jamaica only)	1-800-682-3639
<b>Japan (Kawasaki)</b>		Website: <a href="http://support.jp.dell.com">support.jp.dell.com</a>	
	International Access Code: <b>001</b>	Technical Support (servers)	toll-free: 0120-198-498
	Country Code: <b>81</b>	Technical Support outside of Japan (servers)	81-44-556-4162
		Technical Support (Dimension™ and Inspiron™)	toll-free: 0120-198-226
	City Code: <b>44</b>	Technical Support outside of Japan (Dimension and Inspiron)	81-44-520-1435
		Technical Support (Dell Precision™, OptiPlex™, and Latitude™)	toll-free: 0120-198-433
		Technical Support outside of Japan (Dell Precision, OptiPlex, and Latitude)	81-44-556-3894
		24-Hour Automated Order Service	044-556-3801
		Customer Care	044-556-4240
		Business Sales Division (up to 400 employees)	044-556-1465
		Preferred Accounts Division Sales (over 400 employees)	044-556-3433
		Large Corporate Accounts Sales (over 3500 employees)	044-556-3430
		Public Sales (government agencies, educational institutions, and medical institutions)	044-556-1469
		Global Segment Japan	044-556-3469
	Individual User	044-556-1760	
	Faxbox Service	044-556-3490	
	Switchboard	044-556-4300	
<b>Korea (Seoul)</b>	Technical Support	toll-free: 080-200-3800	
	Sales	toll-free: 080-200-3600	
	Customer Service (Seoul, Korea)	toll-free: 080-200-3800	
	Customer Service (Penang, Malaysia)	604 633 4949	
	City Code: <b>2</b>	Fax	2194-6202

	Switchboard	2194-6000
<b>Latin America</b>	Customer Technical Support (Austin, Texas, U.S.A.)	512 728-4093
	Customer Service (Austin, Texas, U.S.A.)	512 728-3619
	Fax (Technical Support and Customer Service) (Austin, Texas, U.S.A.)	512 728-3883
	Sales (Austin, Texas, U.S.A.)	512 728-4397
	SalesFax (Austin, Texas, U.S.A.)	512 728-4600 or 512 728-3772
<b>Luxembourg</b> International Access Code: <b>00</b> Country Code: <b>352</b>	Website: <b>support.euro.dell.com</b>	
	E-mail: tech_be@dell.com	
	Technical Support (Brussels, Belgium)	02 481 92 88
	Home/Small Business Sales (Brussels, Belgium)	toll-free: 080016884
	Corporate Sales (Brussels, Belgium)	02 481 91 00
	Customer Care (Brussels, Belgium)	02 481 91 19
	Fax (Brussels, Belgium)	02 481 92 99
	Switchboard (Brussels, Belgium)	02 481 91 00
<b>Macao</b> Country Code: <b>853</b>	Technical Support	toll-free: 0800 582
	Customer Service (Penang, Malaysia)	604 633 4949
	Transaction Sales	toll-free: 0800 581
<b>Malaysia (Penang)</b> International Access Code: <b>00</b> Country Code: <b>60</b> City Code: <b>4</b>	Technical Support	toll-free: 1 800 888 298
	Customer Service	04 633 4949
	Transaction Sales	toll-free: 1 800 888 202
	Corporate Sales	toll-free: 1 800 888 213
<b>Mexico</b> International Access Code: <b>00</b> Country Code: <b>52</b>	Customer Technical Support	001-877-384-8979 or 001-877-269-3383
	Sales	50-81-8800 or 01-800-888-3355
	Customer Service	001-877-384-8979 or 001-877-269-3383
	Main	50-81-8800 or 01-800-888-3355
<b>Montserrat</b>	General Support	toll-free: 1-866-278-6822
<b>Netherlands Antilles</b>	General Support	001-800-882-1519
<b>Netherlands (Amsterdam)</b> International Access Code: <b>00</b> Country Code: <b>31</b> City Code: <b>20</b>	Website: <b>support.euro.dell.com</b>	
	E-mail (technical support):	
	(Enterprise): nl_server_support@dell.com	
	(Latitude): nl_latitude_support@dell.com	
	(Inspiron): nl_inspiron_support@dell.com	
	(Dimension): nl_dimension_support@dell.com	
	(OptiPlex): nl_optiplex_support@dell.com	
	(Dell Precision): nl_workstation_support@dell.com	
	Technical Support	020 674 45 00
	Technical Support Fax	020 674 47 66
	Home/Small Business Customer Care	020 674 42 00
	Relational Customer Care	020 674 43 25
	Home/Small Business Sales	020 674 55 00
	Relational Sales	020 674 50 00
	Home/Small Business Sales Fax	020 674 47 75
Relational Sales Fax	020 674 47 50	
Switchboard	020 674 50 00	
Switchboard Fax	020 674 47 50	
<b>New Zealand</b> International Access Code: <b>00</b>	E-mail (New Zealand): nz_tech_support@dell.com	
	E-mail (Australia): au_tech_support@dell.com	
	Home and Small Business	0800 446 255

Country Code: <b>64</b>	Government and Business	0800 444 617
	Sales	0800 441 567
	Fax	0800 441 566
<b>Nicaragua</b>	General Support	001-800-220-1006
<b>Norway (Lysaker)</b> International Access Code: <b>00</b> Country Code: <b>47</b>	Website: <b>support.euro.dell.com</b>	
	E-mail Support (portable computers): nor_nbk_support@dell.com	
	E-mail Support (desktop computers): nor_support@dell.com	
	E-mail Support (servers): nordic_server_support@dell.com	
	Technical Support	671 16882
	Relational Customer Care	671 17514
	Home/Small Business Customer Care	23162298
	Switchboard	671 16800
	Fax Switchboard	671 16865
<b>Panama</b>	General Support	001-800-507-0962
<b>Peru</b>	General Support	0800-50-669
<b>Poland (Warsaw)</b> International Access Code: <b>011</b> Country Code: <b>48</b> City Code: <b>22</b>	Website: <b>support.euro.dell.com</b>	
	E-mail: <b>pl_support@dell.com</b>	
	Customer Service Phone	57 95 700
	Customer Care	57 95 999
	Sales	57 95 999
	Customer Service Fax	57 95 806
	Reception Desk Fax	57 95 998
Switchboard	57 95 999	
<b>Portugal</b> International Access Code: <b>00</b> Country Code: <b>351</b>	Website: <b>support.europe.dell.com</b>	
	E-mail: <b>support.euro.dell.com/es/es/emaildell/</b>	
	Technical Support	800 834 077
	Customer Care	800 300 415 or 800 834 075
	Sales	800 300 410 or 800 300 411 or 800 300 412 or 121 422 07 10
	Fax	121 424 01 12
<b>Puerto Rico</b>	General Support	1-800-805-7545
<b>St. Kitts and Nevis</b>	General Support	toll-free: 1-877-441-4731
<b>St. Lucia</b>	General Support	1-800-882-1521
<b>St. Vincent and the Grenadines</b>	General Support	toll-free: 1-877-270-4609
<b>Singapore (Singapore)</b> International Access Code: <b>005</b> Country Code: <b>65</b>	Technical Support	toll-free: 800 6011 051
	Customer Service (Penang, Malaysia)	604 633 4949
	Transaction Sales	toll-free: 800 6011 054
	Corporate Sales	toll-free: 800 6011 053
<b>South Africa (Johannesburg)</b> International Access Code: <b>09/091</b> Country Code: <b>27</b> City Code: <b>11</b>	Website: <b>support.euro.dell.com</b>	
	E-mail: <b>dell_za_support@dell.com</b>	
	Technical Support	011 709 7710
	Customer Care	011 709 7707
	Sales	011 709 7700
	Fax	011 706 0495
Switchboard	011 709 7700	
<b>Southeast Asian and Pacific Countries</b>	Customer Technical Support, Customer Service, and Sales (Penang, Malaysia)	604 633 4810
<b>Spain (Madrid)</b> International Access Code: <b>00</b> Country Code: <b>34</b>	Website: <b>support.euro.dell.com</b>	
	E-mail: <b>support.euro.dell.com/es/es/emaildell/</b>	
	<b>Home and Small Business</b> Technical Support	902 100 130

City Code: <b>91</b>	Customer Care	902 118 540
	Sales	902 118 541
	Switchboard	902 118 541
	Fax	902 118 539
	<b>Corporate</b>	
	Technical Support	902 100 130
	Customer Care	902 118 546
	Switchboard	91 722 92 00
	Fax	91 722 95 83
	<b>Sweden (Upplands Vasby)</b>	Website: <a href="http://support.euro.dell.com">support.euro.dell.com</a>
International Access Code: <b>00</b>	E-mail: <a href="mailto:swe_support@dell.com">swe_support@dell.com</a>	
	E-mail Support for Latitude and Inspiron: <a href="mailto:Swe-nbk_kats@dell.com">Swe-nbk_kats@dell.com</a>	
Country Code: <b>46</b>	E-mail Support for OptiPlex: <a href="mailto:Swe_kats@dell.com">Swe_kats@dell.com</a>	
City Code: <b>8</b>	E-mail Support for Servers: <a href="mailto:Nordic_server_support@dell.com">Nordic_server_support@dell.com</a>	
	Technical Support	08 590 05 199
	Relational Customer Care	08 590 05 642
	Home/Small Business Customer Care	08 587 70 527
	Employee Purchase Program (EPP) Support	20 140 14 44
	Fax Technical Support	08 590 05 594
	Sales	08 590 05 185
	<b>Switzerland (Geneva)</b>	Website: <a href="http://support.euro.dell.com">support.euro.dell.com</a>
International Access Code: <b>00</b>	E-mail: <a href="mailto:swisstech@dell.com">swisstech@dell.com</a>	
	E-mail for French-speaking HSB and Corporate Customers: <a href="http://support.euro.dell.com/ch/fr/emaiddell/">support.euro.dell.com/ch/fr/emaiddell/</a>	
Country Code: <b>41</b>	Technical Support (Home and Small Business)	0844 811 411
City Code: <b>22</b>	Technical Support (Corporate)	0844 822 844
	Customer Care (Home and Small Business)	0848 802 202
	Customer Care (Corporate)	0848 821 721
	Fax	022 799 01 90
	Switchboard	022 799 01 01
<b>Taiwan</b>	Technical Support (portable and desktop computers)	toll-free: 00801 86 1011
International Access Code: <b>002</b>	Technical Support (servers)	toll-free: 0080 60 1256
	Transaction Sales	toll-free: 0080 651 228 or 0800 33 556
Country Code: <b>886</b>	Corporate Sales	toll-free: 0080 651 227 or 0800 33 555
	<b>Thailand</b>	Technical Support
International Access Code: <b>001</b>	Customer Service (Penang, Malaysia)	604 633 4949
	Country Code: <b>66</b>	Sales
<b>Trinidad/Tobago</b>	General Support	1-800-805-8035
<b>Turks and Caicos Islands</b>	General Support	toll-free: 1-866-540-3355
<b>U.K. (Bracknell)</b>	Website: <a href="http://support.euro.dell.com">support.euro.dell.com</a>	
International Access Code: <b>00</b>	Customer Care website: <a href="http://dell.co.uk/lca/customerservices">dell.co.uk/lca/customerservices</a>	
	E-mail: <a href="mailto:dell_direct_support@dell.com">dell_direct_support@dell.com</a>	
Country Code: <b>44</b>	Technical Support (Corporate/Preferred Accounts/PAD [1000+ employees])	0870 908 0500
City Code: <b>1344</b>	Technical Support (direct/PAD and general)	0870 908 0800
	Global Accounts Customer Care	01344 373 185 or 01344 373 186
	Home and Small Business Customer Care	0870 906 0010
	Corporate Customer Care	0870 908 0500
	Preferred Accounts (500–5000 employees) Customer Care	01344 373 196
	Central Government Customer Care	01344 373 193
	Local Government & Education Customer Care	01344 373 199
	Health Customer Care	01344 373 194



	Home and Small Business Sales	0870 907 4000
	Corporate/Public Sector Sales	01344 860 456
<b>Uruguay</b>	General Support	toll-free: 000-413-598-2521
<b>U.S.A. (Austin, Texas)</b>	Automated Order-Status Service	toll-free: 1-800-433-9014
International Access Code: 011	AutoTech (portable and desktop computers)	toll-free: 1-800-247-9362
Country Code: 1	<b>Consumer (Home and Home Office)</b>	
	Technical Support	toll-free: 1-800-624-9896
	Customer Service	toll-free: 1-800-624-9897
	DellNet™ Service and Support	toll-free: 1-877-Dellnet (1-877-335-5638)
	Employee Purchase Program (EPP) Customers	toll-free: 1-800-695-8133
	Financial Services website: <a href="http://www.dellfinancialservices.com">www.dellfinancialservices.com</a>	
	Financial Services (lease/loans)	toll-free: 1-877-577-3355
	Financial Services (Dell Preferred Accounts [DPA])	toll-free: 1-800-283-2210
	<b>Business</b>	
	Customer Service and Technical Support	toll-free: 1-800-822-8965
	Employee Purchase Program (EPP) Customers	toll-free: 1-800-695-8133
	Projectors Technical Support	toll-free: 1-877-459-7298
	<b>Public (government, education, and healthcare)</b>	
	Customer Service and Technical Support	toll-free: 1-800-234-1490
	Employee Purchase Program (EPP) Customers	toll-free: 1-800-695-8133
	Dell Sales	toll-free: 1-800-289-3355 or toll-free: 1-800-879-3355
	Dell Outlet Store (Dell refurbished computers)	toll-free: 1-888-798-7561
	Software and Peripherals Sales	toll-free: 1-800-671-3355
	Spare Parts Sales	toll-free: 1-800-357-3355
	Extended Service and Warranty Sales	toll-free: 1-800-247-4618
	Fax	toll-free: 1-800-727-8320
	Dell Services for the Deaf, Hard-of-Hearing, or Speech-Impaired	toll-free: 1-877-DELLTTY (1-877-335-5889)
<b>U.S. Virgin Islands</b>	General Support	1-877-673-3355
<b>Venezuela</b>	General Support	8001-3605

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## Device Drivers: Dell™ PowerVault™ 132T Tape Library User's Guide

● [Dell PowerVault 132T Library Driver Installation](#)

● [Dell PowerVault 132T Tape Driver Installation](#)

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When using Microsoft® Windows® 2000 or Windows Server™ native backup, ensure that the proper drivers for the library and drives are installed. If any doubt exists about the proper drivers residing on the system, use the following procedures to install the appropriate drivers.

### Dell PowerVault 132T Library Driver Installation

1. Connect the library to the host and restart the machine.
2. Insert the *Dell PowerVault 132T Library Documentation and Drivers* CD into the CD drive.
3. Start the **Windows 2000** or **Windows Server 2003 Device Manager**.
4. In the **Device Manager**, select **Medium Changers**.
5. Right click on the **Unknown Medium Changer device**.
6. Select **Properties** from the pop-up menu.
7. Select the **Driver** tab on the properties page.
8. Click the **Update driver...** button. This will start the **Upgrade Device Driver Wizard**. Click **Next**.
9. Select the option **Search for a suitable driver for my device**. Click **Next**.
10. In **Optional search locations** check only CD-ROM drives. Click **Next**.
11. Setup will select the installation file, *pv132t.inf*. Click **Next**.

Required files will be installed for the driver now.

12. Click **Finish**.
  13. Click **Close** on the **Properties** page.
  14. Make sure that in **Device Manager**, under **Medium changers**, **Dell (TM) PowerVault (TM) 132T Tape Library** is listed.
- 

### Dell PowerVault 132T Tape Driver Installation

1. Insert the *Dell PowerVault 132T Library Documentation and Drivers* CD into the CD drive.
2. Start the **Windows Server 2003** or **Windows 2000 Device Manager**.
3. Find the appropriate device in the **Device Manager**. Available options are:
  - LTO-3: **IBM ULTRIUM-TD3 SCSI Sequential Device**
  - LTO-2: **IBM ULTRIUM-TD2 SCSI Sequential Device**
  - LTO-1: **IBM ULTRIUM-TD1 SCSI Sequential Device**
  - SDLT-320: **Quantum SDLT-320 Sequential Drive**
4. Right-click on the tape drive.
5. Select **Properties** from the pop-up menu.
6. Select the **Driver** tab on the properties page.
7. Click the **Update driver...** button. This will start the **Upgrade Device Driver Wizard**. Click **Next**.
8. Select the option **Search for a suitable driver for my device**. Click **Next**.
9. In **Optional search locations** check only CD-ROM drives. Click **Next**.
10. Follow the instructions on the screen to locate the appropriate tape drive for your library. Then click **Next**.

Required files will be installed for the driver now.

11. Click **Finish**.
  12. Click **Close** on the **Properties** page.
  13. In **Device Manager**, make sure that the appropriate device is listed under **Tape Devices**. Available options are:
    - LTO-3: **IBM ULTRIUM III TAPE DRIVE**
    - LTO-2: **Dell PowerVault 110T LTO2 Tape Drive**
    - LTO-1: **Dell PowerVault 110T LTO Tape Drive**
    - SDLT-320: **Dell (tm) PowerVault (tm) 110T SDLT 320**
-

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## Frequently Asked Questions: Dell™ PowerVault™ 132T Tape Library User's Guide

● [FAQs When Getting Started](#)

● [More FAQs](#)

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### FAQs When Getting Started

The following are questions you may encounter when first setting up your library.

#### What Operator Panel menus are required to get started?

You can use the Setup Wizard to walk you through configuring your library. Refer to [Setup Wizard](#). You can also configure your library manually by using the **Setup** menu. Refer to [Setup Menu](#) for step-by-step instructions and descriptions of each submenu.

#### How do I set a SCSI ID?

Your library has two types of SCSI IDs. There is one for the library and a separate SCSI ID for each drive. Refer to [Configuring SCSI and Fibre Parameters](#).

#### What type of host interface is required?

The PowerVault 132T supports both Fibre Channel connections and the Low Voltage Differential (LVD) SCSI interface. When installing an interface card on the host computer, install a card that supports the drive type being used. A label on the back of the drive module next to the connectors indicates their type. For more information, refer to [Setting up Your Library](#).

#### How do I cable the library to the interface card?

First, make sure that your host computer has an interface card or HBA. If your host computer did not come with SCSI or FC capability, you first need to install the appropriate adapter card. Refer to the manual that comes with your host adapter for specific directions. Fibre hosts typically connect to the library through a switch or an SNC, although they can be connected directly.

Once the card is installed, locate either a 68-pin LVD SCSI cable or an appropriate FC cable to connect the host to the drive, switch, or SNC. Depending on the configuration you purchased, Dell can provide a 1 ft SCSI cable to connect two SCSI drives together or a 2 ft SCSI cable to connect the SNC to drives.

For cabling diagrams, refer to [Connecting to SCSI Drives](#) or [Connecting to Fibre Drives](#).

#### What type of terminator is required?

The PowerVault 132T library can be purchased with either SCSI drives or FC drives. The library with SCSI drives is compatible with Low Voltage Differential (LVD) communication. A compatible HD68 pin, LVD/SE terminator is included with the accessory kit. The PowerVault 132T is not compatible with High Voltage Differential (HVD) communication. The PowerVault 132T library with FC drives does not require terminators.

For more information on connecting a terminator to your PowerVault 132T, refer to [Connecting to SCSI Drives](#).

#### Can I add an LTO-3 drive to a PowerVault 132T LTO-1 or LTO-2 Library?

Yes, if both drives are SCSI or both drives are Native Fibre. The library supports mixed generation LTO drives.

#### Where are the drivers located?

Drivers for your library can be found on the *PowerVault 132T Library Documentation and Drivers* CD in the *drivers* directory. If you need assistance installing the drivers, contact Technical Support.

#### How do I manually remove a tape?

There are four places within the library where you may want to manually remove a tape. You can remove a tape manually from a drive, the back slots, the magazines, and the picker. Refer to [Removing Tapes](#).

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### More FAQs

The following are questions you may encounter when operating your library.

#### When the library is operating in LUN mode, why is it not detected by hosts running Linux or Netware ?

Some operating systems do not scan multi-LUN devices by default. Therefore, only the device on LUN 0 will be automatically detected. When the library is in LUN mode, the library is presented to the host on LUN 1. Refer to the user's guide for your operating system or host bus adapter to enable multi-LUN scanning.

#### Where are the Error Messages defined?

Hard errors are listed in the Error Log which can be accessed through the **Status** menu. All errors, diagnostic alerts, and events are accessible by outputting logs to the serial port. For more information on outputting logs, see [Exporting Log Files](#).

For more information on specific error messages, see [Error Messages](#).

## How do I update the library and drive firmware?

Your library contains firmware for the main controller application, robotics, RMU, drives, main controller boot code, and the robotics boot code. For information about viewing the firmware version, see [Display Firmware Version](#).

You can find drive and library firmware updates on the Dell website at [support.dell.com](http://support.dell.com). There are three ways that you can update your firmware:

RMU	If you have an RMU installed, you can update the library, RMU, and drive firmware (LTO only) from the <b>Firmware</b> tab of the RMU interface. For more information, refer to <a href="#">Updating Firmware</a> .
Serial Port	You can update the library firmware using the serial port. When you go to the Dell website ( <a href="http://support.dell.com">support.dell.com</a> ) to download the firmware, instructions are provided on how to use the serial port to perform the update.
Firmware Update Tape	You can update drive firmware using a firmware update (FUP) tape. For more information, refer to <a href="#">Load Firmware</a> .




## How do I clean a drive?

There are three ways to clean a drive on your library: manually, using AutoClean, and host controlled.


- 1 For information about manually cleaning the drive, see [Cleaning a Drive](#).
- 1 For information about AutoClean, see [Configure AutoClean](#).
- 1 Host-controlled cleaning allows a host application to control drive cleaning. The cleaning tapes are managed by the host application, instead of your library.

[Table 1](#) provides guidelines for using the cleaning cartridge.

**Table 1. Cleaning cartridge usage guidelines**

If . . .	It means . . .	You should . . .
1 The  icon appears on the Operator Panel LCD	The drive has requested cleaning OR The data cartridge is bad OR The drive is on a periodic cleaning cycle	Use the cleaning cartridge to clean the drive head. When cleaning is complete, log the cleaning onto the label.
1 A data cartridge causes the  icon to appear on the Operator Panel LCD.	The data cartridge is damaged OR The drive is on a periodic cleaning cycle	Back up the data from this cartridge onto another cartridge, it may be damaged. A damaged tape cartridge may cause unnecessary use of the cleaning cartridge.
1 The  icon re-appears after performing a cleaning and reloading the data cartridge.	Cleaning was not accomplished because the cleaning tape cartridge has exhausted all cleaning cycles. OR The data cartridge may be damaged	Replace the cleaning cartridge. Back up the data from this cartridge onto another cartridge, it may be damaged. A damaged cartridge may cause unnecessary use of the cleaning cartridge.

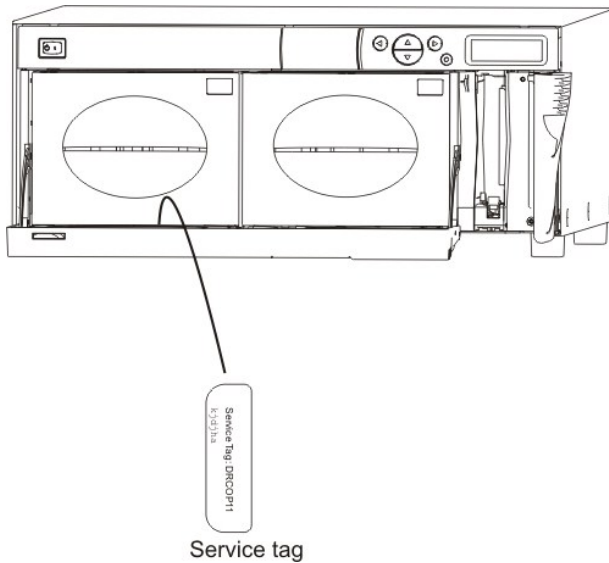
## What is the life span of the cleaning tape?

Your library came with a cleaning tape. This tape should be used to clean the drive(s) of your library when the  icon appears in the drive status field of the LCD.

Your tape library will keep track of each time a cleaning tape is used and tell you when it has expired. After you first import an LTO cleaning tape into a drive, the life span can be read from the **Inventory** menu. From the Operator Panel, select the **Status**—> **Inventory** command. An LTO cleaning cartridge can be used approximately 50 times, and the inventory count shows 50 cleans remaining until you load the tape into a drive for the first time. An SDLT-320 cleaning cartridge can be used approximately 20 times. For more information on cleaning the drive, see [Cleaning a Drive](#).

## Where is the Service Tag located?

The Service Tag for your library can be found on the inside of your library below the left magazine. You will need to remove the magazine to view the label.



Service tag

Use the Service Tag when contacting Technical Support for assistance.

## What is partitioning?

Partitioning is a way to allow your single library to be logically partitioned so it will appear to a host as if it were two independent physical libraries. Each logical library (partition) can be independently controlled as though it were two different libraries.

The library allows you the flexibility to change the partition size and share cleaning tapes between partitions. When the library is partitioned, the IE slot must be shared. [Table 2](#) describes the partitioning operating modes that can be used with various drive types.

Table 2. Partitioning operating modes

Partition	LTO-1/LTO-2/LTO-3	SDLT-320
Partition 1	<ul style="list-style-type: none"> <li>1 Random</li> <li>1 Sequential</li> <li>1 LUN</li> </ul>	<ul style="list-style-type: none"> <li>1 Random</li> <li>1 Sequential</li> </ul>
Partition 1-Partition 2	<ul style="list-style-type: none"> <li>1 Random-Sequential</li> <li>1 Sequential-Sequential</li> <li>1 LUN-LUN</li> <li>1 LUN-Sequential</li> <li>1 Sequential-LUN</li> </ul>	<ul style="list-style-type: none"> <li>1 Random-Sequential</li> <li>1 Sequential-Sequential</li> </ul>

## How many characters can be on the barcode?

The library will read barcodes with a minimum of 5 characters and a maximum of 16 characters. The barcode scanner will read and report the information that it scans and will display this information on the Operator Panel. The library will report the barcode information to the host according to the mode it was configured for and will display alert messages on the Operator Panel LCD if the scanned barcode does not match the barcode length and media identifier requirements of the mode.

Three different types of barcode label modes are supported:

Default:	The scanner will expect to read and will report to the host six characters. Optional one or two character media identifiers can be present but will not be reported. If you plan to use backup software to manage media based on the media identifier, this setting will need to be changed either to Media ID or Extended.
Media ID:	The scanner will expect to read and will report to the host seven or eight characters (six plus the media identifier).
Extended:	The scanner will read and report to the host between five and sixteen characters.

For more information on configuring barcode label modes, see [Configure Barcode Scanner](#).

## What format should I use for my barcodes?

The library currently supports Code 39 type barcode labels. For more information, see [Barcode Labels](#).


## What do I do if I lose my password?

Call Technical Support and they will tell you how to reset the password.

## What should I do if I lose power during a backup?

If the power goes out during a backup and then is restored, the library should recover and re-inventory. If power is still out, turn the switch off until a reliable power source is obtained. Once the power to the library is turned back on, the library will recover. You will need to re-run your backup using your application

software.

 **NOTICE:** Prior to power up, the library should be free of any obstruction. If the power failure occurred while the library was in motion, a tape may be extending out of a drive or storage slot and may not be movable by the picker. You may need to clear the tape manually. See [Removing Tapes](#) for more information.

## How do I get help?

If you need assistance with a technical problem, refer to the [Getting Help](#) section of this document.

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## Getting Started: Dell™ PowerVault™ 132T Tape Library User's Guide

- [Unpacking and Inspecting](#)
  - [Checking the Accessories](#)
  - [Setting up Your Library](#)
  - [Configuring Your Library](#)
  - [Preparing the Host Computer](#)
- 

### Unpacking and Inspecting

Unpack all items from the carton. Save the packing materials in case you need to move or ship the system in the future.

#### NOTICES:

You must ship the library in the original or equivalent packing materials or your warranty may be invalidated. If the operating environment differs from the storage environment by 15°C (30°F) or more, let the unit acclimate to the surrounding environment for at least 12 hours before opening the shipping carton.

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### Checking the Accessories

Verify that the following items are included with your library, and that none of them are damaged:

- 1 Power cable
- 1 One SCSI cable with 68-pin HD to 68-pin HD connectors (if you purchased two SCSI drives for your library)
- 1 One SCSI cable with 68-pin HD to VHDCI connectors per drive (if you purchased an SNC for your library)
- 1 Active 68-pin SCSI bus terminator (if you purchased SCSI drives for your library)
- 1 Two keys for the front door
- 1 *Dell PowerVault 132T Tape Library Documentation and Drivers CD*
- 1 Barcode labels
- 1 Rackmounting kit (optional)

**NOTE:** Store the CD and keys in a safe location for preventative maintenance or service activity.

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### Setting Up Your Library

This section provides step-by-step instructions for setting up your library, which includes:

- 1 Connecting to SCSI drives
- 1 Connecting to fibre drives
- 1 Connecting the power cable
- 1 Inserting tape cartridges in magazines

For instructions on installing optional hardware, see [Installing/Replacing Hardware](#).

### Connecting to SCSI Drives

If your host computer system does not have native SCSI capability and the host adapter you are using is not installed, install it. Refer to the manual that came with your host adapter for specific directions. When the host adapter card is installed, return to this point in the manual.

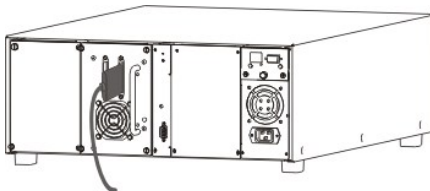
Check to ensure that the interface cable you are planning to use has the appropriate connectors on each end. The library uses a 68-pin LVD SCSI connector on the back panel.

- 1 If your host computer's SCSI connector is different from the one on the cable provided with the library, you will need to obtain an adapter or a different cable. Consult your dealer or Dell technical support if you need help.
- 1 The interface cable must be shielded—Dell can supply you with the correct type.

Follow the procedure below to connect the SCSI cable and terminator.

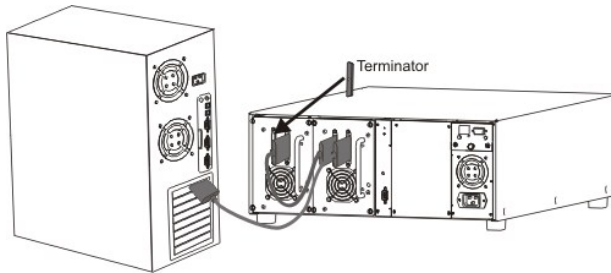
1. Connect the SCSI cable to either of the SCSI connectors on the rear panel of the library.

**Figure 1. SCSI cable connected to library**



2. Connect the free end of the SCSI cable to the connector on the host computer's SCSI adapter.

Figure 2. SCSI cable connected to host computer (two drive library)



3. Be sure that the bus is terminated at the last device in the chain.

➔ **NOTICE:** Ensure that you are using the proper terminator for your type of SCSI device.

4. Make sure that the SCSI cable between the host adapter and the library is secure and the connections are fastened correctly.

🔍 **NOTE:** The library SCSI interface is shared with the drive SCSI connection.

## Connecting to Fibre Drives

Each drive module in a fibre library has one duplex FC (Fibre Channel) connector on the back panel. Typically, you connect the FC cable from this connector to an FC switch. If your library has two drives, connect FC cables to each drive and connect each drive to the switch. Install an FC HBA (host bus adapter) in the host, and connect it to the switch as well. Refer to the manual that came with your host bus adapter for specific directions. Check for the proper size connector on the drive module and FC switch before purchasing cables.

Follow the procedure below to cable fibre drives.

1. Connect the FC cable(s) to the connector(s) on the rear of the drive(s).

Figure 3. FC cable connecting drive to switch

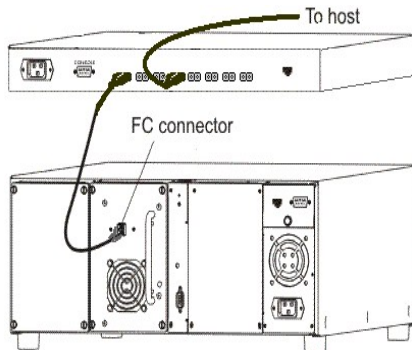
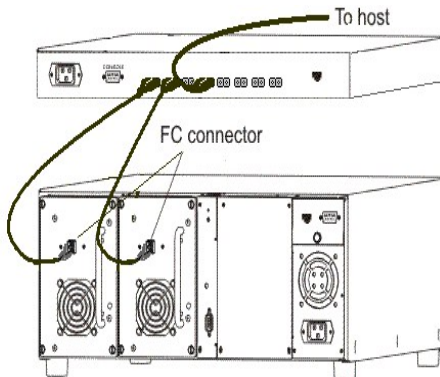


Figure 4. FC cables connecting two drives to a switch




2. Connect the switch to the FC HBA card in the host computer.

## Connecting the Power Cable



Follow the procedure below to connect the power cable to your library.

1. Make sure the power switch on the front of the library is off (the  is pressed).
2. Plug the power cable into the AC receptacle on the back panel of your library.
3. Plug the power cable from the library into a grounded electrical outlet.


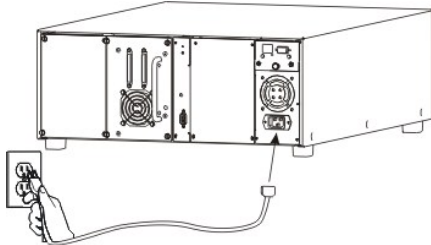
 **CAUTION:** Use caution when plugging the power cable into an electrical outlet. Hazardous voltages are present in the sockets of the outlet.

Figure 5. Connecting the power cable



 **NOTICE:** Ensure that the power cable from the library is plugged directly into the electrical outlet. Extension cords should not be used.

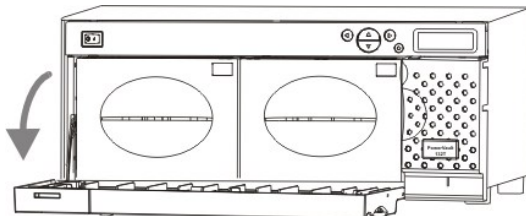
## Inserting Tape Cartridges

Make sure that the write-protect switch is set appropriately on each cartridge. Slide the switch to the appropriate position by pushing it with your finger. Also, make sure that you have applied the barcode labels to the cartridges. For more information, see [Barcode Labels](#).

Follow the procedure below to insert data cartridges.

1. Open the media access door.

Figure 6. Opening the media access door



2. Insert your fingers in the magazine handle and slide out the magazines.


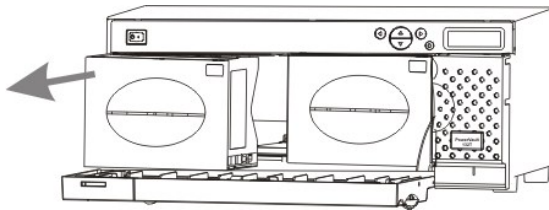
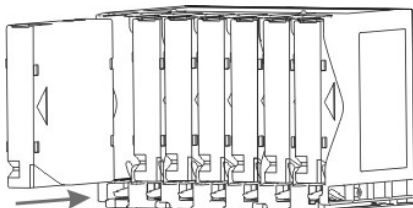
 **NOTE:** You may need to pull firmly to remove the magazines.


Figure 7. Removing the magazines



3. Fill the magazines with cartridges. Be sure that cartridges are inserted with the correct orientation, as shown in [Figure 6](#). The magazine is designed to protect against improper insertion. If the cartridges do not insert easily, do not force them. Try to orient the cartridges correctly and reinsert them. For more information on proper media insertion and removal, see [Inserting and Removing Media](#).

Figure 8. Inserting a Cartridge



 **NOTE:** Media barcode labels can be viewed through the magazine window.

4. Re-install the magazines into the library.

 **NOTE:** You will need to push firmly to fully insert the magazines.

1. Close the media access door.

Refer to [Bulk Load](#) for instructions on loading cartridges from the magazines into the back slots. You can also use your host application to move the cartridges from the magazines to the back slots. Refer to [Move Media](#) for instructions on loading cartridges into the drive.

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## Configuring Your Library

After you have set up your library, you need to configure it. You can configure your library using a Setup Wizard. The Setup Wizard guides you step-by-step through the configuration process ensuring that all elements are configured in the proper order.

Your library is shipped with a default configuration that you can use. The default settings are shown in [Table 1](#).

**Table 1. Default library configuration settings**

Option:	Setting:	Description:
IE Slot	Import/Export	The host will see one import/export slot and 23 data slots for LTO or 20 data slots for SDLT-320.
Partitioning	Disabled	Your library has the ability to be logically partitioned so that it will appear to the host as if it were two independent physical libraries instead of a single library. With partitioning disabled, the host will see a single library.
Mode	Random or LUN	Your library will be configured in Random mode if it has SCSI drives. With Native Fibre drives, the default configuration will be set to LUN.
AutoClean	Disabled	The library will not automatically clean the drives when cleaning is required.
Library SCSI ID	0	
Drive 1 SCSI ID	1	
Drive 2 SCSI ID	2	
Inquiry	PV-132T	The inquiry string returned to the host in a SCSI inquiry command will be PV-132T.
Timeout Interval	1 minute	After 1 minute of inactivity on a submenu, the library will return to the <b>Main</b> menu. If a password is set, it will have to be re-entered to access the library.
Password	Disabled	A password is not required to access your library.
Key Click	Disabled	An audible tone will not be heard when buttons on the keypad are pressed.
Scanner	Enabled	The barcode scanner will scan barcode labels.

If you wish to change any of these configuration settings, you can either use the Setup Wizard or change them manually using the **Setup** menu. For more information on any of these options or to change the default settings, refer to [Setup Wizard](#) or [Setup Menu](#).

---

## Preparing the Host Computer

At this point, you need to refer to your tape backup software installation guide for instructions on installing the backup/controlling software for the library onto the host computer. If your host requires a Fibre Channel connection, refer to the installation and operation instructions that come with your HBA.

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## Getting Help: Dell™ PowerVault™ 132T Tape Library User's Guide


- [Technical Assistance](#)
  - [Dell Enterprise Training and Certification](#)
  - [Problems With Your Order](#)
  - [Product Information](#)
  - [Returning Items for Warranty Repair or Credit](#)
  - [Before You Call](#)
- 

### Technical Assistance

If you need assistance with a technical problem, perform the following steps:


1. Complete the procedures in "Troubleshooting Your System."
2. Run the system diagnostics and record any information provided.
3. Use Dell's extensive suite of online services available at Dell Support at [support.dell.com](http://support.dell.com) for help with installation and troubleshooting procedures.  
For more information, see ["Online Services."](#)
4. If the preceding steps have not resolved the problem, call Dell for technical assistance.

 **NOTE:** Call technical support from a phone near or at the system so that technical support can assist you with any necessary procedures.

 **NOTE:** Dell's Express Service Code system may not be available in all countries.

When prompted by Dell's automated telephone system, enter your Express Service Code to route the call directly to the proper support personnel. If you do not have an Express Service Code, open the **Dell Accessories** folder, double-click the **Express Service Code** icon, and follow the directions.

For instructions on using the technical support service, see ["Technical Support Service"](#) and ["Before You Call."](#)

 **NOTE:** Some of the following services are not always available in all locations outside the continental U.S. Call your local Dell representative for information on availability.

### Online Services

You can access Dell Support at [support.dell.com](http://support.dell.com). Select your region on the **WELCOME TO DELL SUPPORT** page, and fill in the requested details to access help tools and information.

You can contact Dell electronically using the following addresses:

- 1 World Wide Web

[www.dell.com/](http://www.dell.com/)

[www.dell.com/ap/](http://www.dell.com/ap/) (for Asian/Pacific countries only)

[www.euro.dell.com](http://www.euro.dell.com) (for Europe only)

[www.dell.com/la](http://www.dell.com/la) (for Latin American countries)

[www.dell.ca](http://www.dell.ca) (Canada only)

- 1 Anonymous file transfer protocol (FTP)

[ftp.dell.com/](ftp://ftp.dell.com/)

Log in as user: `anonymous`, and use your e-mail address as your password.

- 1 Electronic Support Service

[support@us.dell.com](mailto:support@us.dell.com)

[apsupport@dell.com](mailto:apsupport@dell.com) (for Asian/Pacific countries only)

[support.euro.dell.com](mailto:support.euro.dell.com) (for Europe only)

- 1 Electronic Quote Service

[sales@dell.com](mailto:sales@dell.com)

[apmarketing@dell.com](mailto:apmarketing@dell.com) (for Asian/Pacific countries only)

[sales\\_canada@dell.com](mailto:sales_canada@dell.com) (Canada only)

- 1 Electronic Information Service

info@dell.com

## AutoTech Service

Dell's automated technical support service—AutoTech—provides recorded answers to the questions most frequently asked by Dell customers about their portable and desktop computer systems.

When you call AutoTech, use your touch-tone telephone to select the subjects that correspond to your questions.

The AutoTech service is available 24 hours a day, 7 days a week. You can also access this service through the technical support service. See the contact information for your region.

## Automated Order-Status System

To check on the status of any Dell™ products that you have ordered, you can go to [support.dell.com](http://support.dell.com), or you can call the automated order-status service. A recording prompts you for the information needed to locate and report on your order. See the contact information for your region.

## Technical Support Service

Dell's technical support service is available 24 hours a day, 7 days a week, to answer your questions about Dell hardware. Our technical support staff use computer-based diagnostics to provide fast, accurate answers.

To contact Dell's technical support service, see "[Before You Call](#)" and then see the contact information for your region.

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## Dell Enterprise Training and Certification

Dell Enterprise Training and Certification is available now; see [www.dell.com/training](http://www.dell.com/training) for more information. This service may not be offered in all locations.

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## Problems With Your Order

If you have a problem with your order, such as missing parts, wrong parts, or incorrect billing, contact Dell for customer assistance. Have your invoice or packing slip available when you call. See the contact information for your region.

---

## Product Information

If you need information about additional products available from Dell, or if you would like to place an order, visit the Dell website at [www.dell.com](http://www.dell.com). For the telephone number to call to speak to a sales specialist, see the contact information for your region.

---

## Returning Items for Warranty Repair or Credit

Prepare all items being returned, whether for repair or credit, as follows:

1. Call Dell to obtain a Return Material Authorization Number, and write it clearly and prominently on the outside of the box.  
For the telephone number to call, see the contact information for your region.
2. Include a copy of the invoice and a letter describing the reason for the return.
3. Include a copy of any diagnostic information indicating the tests you have run and any error messages reported by the system diagnostics.
4. Include any accessories that belong with the item(s) being returned (such as power cables, media such as CDs and diskettes, and guides) if the return is for credit.
5. Pack the equipment to be returned in the original (or equivalent) packing materials.

You are responsible for paying shipping expenses. You are also responsible for insuring any product returned, and you assume the risk of loss during shipment to Dell. Collect-on-delivery (C.O.D.) packages are not accepted.


Returns that are missing any of the preceding requirements will be refused at our receiving dock and returned to you.

---

## Before You Call

 **NOTE:** Have your Express Service Code ready when you call. The code helps Dell's automated-support telephone system direct your call more efficiently.

If possible, turn on your system before you call Dell for technical assistance and call from a telephone at or near the computer. You may be asked to type some commands at the keyboard, relay detailed information during operations, or try other troubleshooting steps possible only at the computer system itself. Ensure that the system documentation is available.

 **CAUTION:** Before servicing any components inside your computer, see your *Product Information Guide* for important safety information.

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## Installing/Replacing Hardware: Dell™ PowerVault™ 132T Tape Library User's Guide

- [Installing/Replacing a Drive](#)
- [Replacing the Barcode Scanner](#)
- [Replacing the Remote Management Unit](#)
- [Installing/Replacing the Storage Networking Controller](#)

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This section describes how to install and/or replace the PowerVault 132T library customer-replaceable hardware.

---

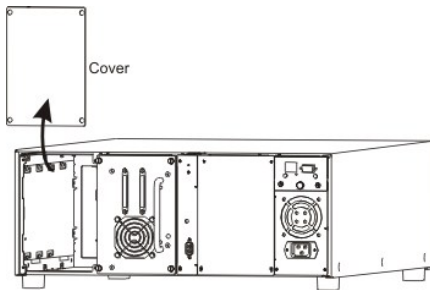
### Installing/Replacing a Drive

Your library can contain up to two drives. If you have one drive, you can install an additional drive by following the procedure below.

**NOTE:** With LUN partitioning, the library can support a mix of LTO drive generations within a single unit. The library does not support an LTO drive in the same library with an SDLT drive.

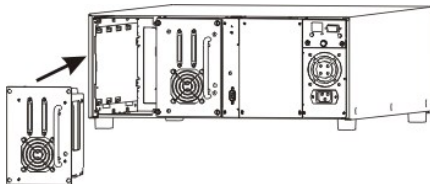
1. Remove the drive module from the packaging.
2. Power down the library and disconnect the power cable from the electrical outlet.
3. Power down the host and disconnect the cable connecting the library and host.
4. From the back of the library, locate the available drive slot.
5. Loosen the four thumbscrews on the cover plate and remove the cover plate ([Figure 1](#)).
6. Store the cover plate in a convenient place. It is required for proper operation and cooling of the library if the optional drive is ever removed.

Figure 1. Drive module cover plate removal



7. Slide the drive module into position ([Figure 2](#)) being careful to ensure that the metal edge on the drive module is inserted into the plastic guide on the left side of the drive bay. Do not use excessive force when inserting the drive sled or you may cause damage to your library.

Figure 2. Drive module installation



8. Tighten the four thumbscrews. Make sure the back plate is flush with the chassis and all screws are fully tightened.
9. Connect one end of the SCSI bus cable to the drive sled SCSI connector and the other end to the host.
10. Install an LVD terminator on the last device of the SCSI chain.
11. Plug the power cable into a grounded electrical outlet.
12. Power on the library.
13. When the library is online, power on the host.

**NOTE:** A drive must always be present in the first slot (shown on the right in the figure above).

For setting up a specific SCSI address for the new drive, see [Configuring SCSI and Fibre Parameters](#).

### Replacing a Drive

If you are replacing an existing drive, remove the drive by loosening the thumbscrews and pulling out the drive sled. Follow Steps 7 through 13 in [Installing a Drive](#) to install the new drive.

---

### Replacing the Barcode Scanner

The barcode scanner enables your library to read tape cartridge information contained in a barcode label attached to each of the data cartridges. This information becomes part of the application software's library cartridge inventory. Follow the procedure below to replace a barcode scanner.

Tools required: Philips screwdriver

1. Remove the barcode scanner module ([Figure 3](#)) from the packaging. Be careful not to handle the barcode scanner on the glass lens.

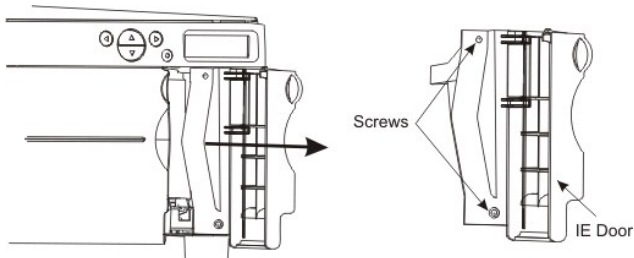
**Figure 3. Barcode scanner**



2. Power down your library and disconnect the power cable from the electrical outlet.
3. Open the IE door, which is located to the right of the media access door.
4. Unscrew the top and bottom screws on the bracket inside the IE door and pull straight out to remove door and bracket ([Figure 4](#)). Save the screws, you will need them to re-install the door.

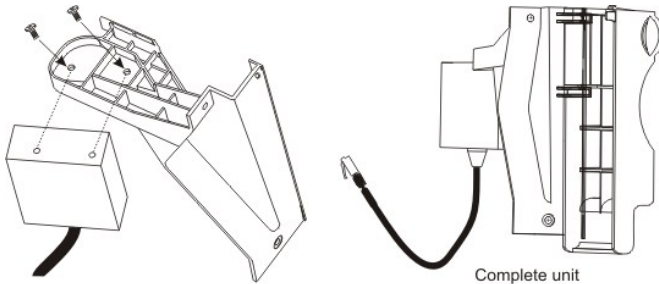
**NOTE:** You may need to pull firmly to remove the door.

**Figure 4. Bracket screws and IE door removal**



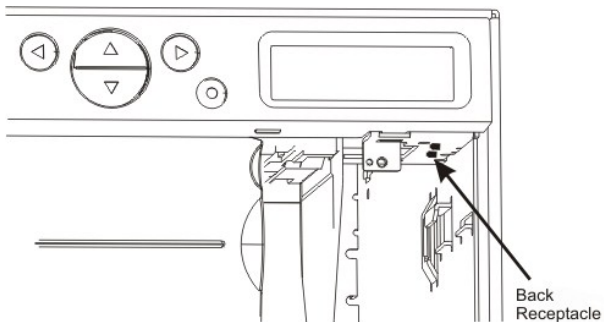
5. Remove the existing barcode scanner by loosening the two screws on the top of the IE door bracket and detaching the scanner from the bracket.
6. Align the two screw holes on the top of the new barcode scanner with the screw holes on the IE door bracket ([Figure 5](#)).
7. Attach the new barcode scanner to the bracket using the two screws that came with the barcode scanner.

**Figure 5. Attaching barcode scanner to bracket**



8. Locate the two receptacles inside the library underneath the LCD screen. Insert the connector on the barcode scanner into the back receptacle ([Figure 6](#)).

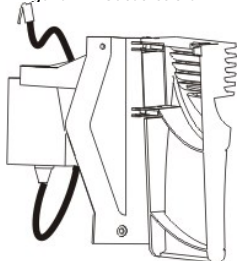
**Figure 6. Receptacle for barcode scanner connector**



- After connecting the bar code scanner cable to the rear receptacle, route the cable to the right of the scanner. Route it over the top of the plastic projection that the barcode scanner is connected to so that the cable fits against the groove in the plastic ([Figure 7](#)). Hold onto the cable as you begin sliding the bar code scanner assembly back into the library.

**⚠ CAUTION:** If the cable is not correctly routed, it can interfere with the picker's travel.

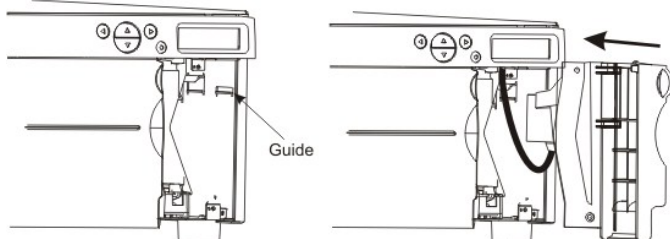
Figure 7. Routed cable



- Slide the plastic tab on the right side of the IE door bracket, into the metal guide inside the library. Push straight in until the bracket firmly seats against the front of the unit ([Figure 8](#)).

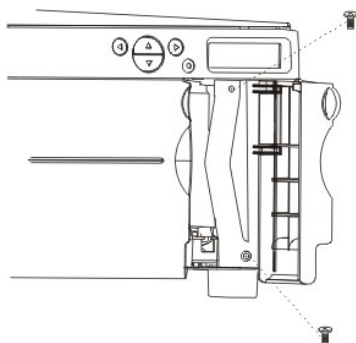
**⚠ CAUTION:** If the IE door assembly does not fit flush against the library, the cable is not routed properly. If you force the IE door rather than reroute the cable, you can crack the door assembly.

Figure 8. Installing IE door/barcode scanner assembly



- Reattach the IE door/barcode scanner assembly to the library using the two screws removed from the bracket in Step 4 ([Figure 9](#)).

Figure 9. Reattaching barcode scanner assembly



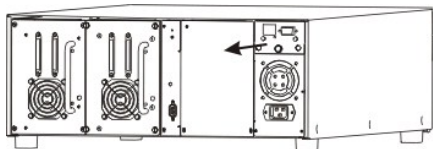
- Ensure that your barcode scanner is enabled by following the steps in [Configure Barcode Scanner](#).

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## Replacing the Remote Management Unit

- Remove the RMU from the packaging.
- Power down your library and disconnect the power cable from the electrical outlet.
- From the back of the library, locate the RMU. Remove the RMU by loosening the thumbscrew and pulling out the RMU ([Figure 10](#)).

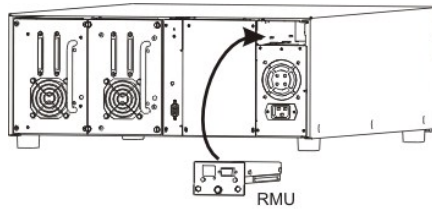
Figure 10. RMU removal





- Slide the new RMU into position and tighten the thumbscrew ([Figure 11](#)).

**Figure 11. RMU module installation**



- Plug the power cable into a grounded electrical outlet.
- Power on the library.

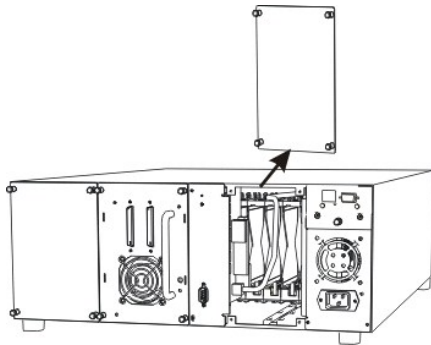
The library will detect the presence of the RMU. If you want to set a new IP Address, Subnet Mask, and Gateway Address, go to the [Setup Wizard](#) or [Configure RMU](#).

---

## Installing/Replacing the Storage Networking Controller

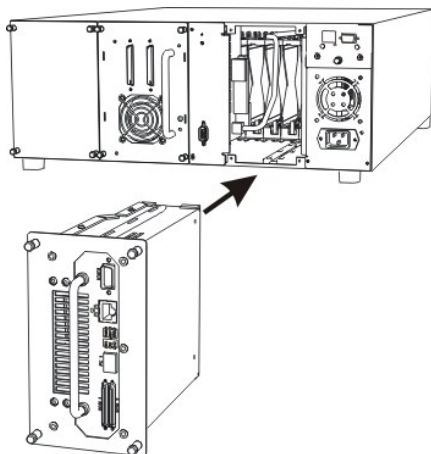
- Remove the SNC from the packaging.
- Power down your library and disconnect the power cable from the electrical outlet.
- From the back of the library, locate the available SNC slot. Loosen the four thumbscrews on the cover plate and remove the cover plate ([Figure 12](#)).

**Figure 12. SNC cover plate removal**



- Slide the SNC into position and until it mates with the connector then tighten the thumbscrews ([Figure 13](#)).

**Figure 13. SNC installation**



- Plug the power cable into a grounded electrical outlet.

Refer to the [PowerVault 132T SNC User's Guide](#) for more installation information.

## Replacing the SNC

- Power down your library and disconnect the power cable from the electrical outlet.
- Remove the SNC from the library by loosening the thumbscrews and pulling out the SNC.

3. Follow Steps 4 and 5 in the procedure above to install the new SNC.

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## Introduction: Dell™ PowerVault™ 132T Tape Library User's Guide

- [Other Documents You Might Need](#)
- [Explanation of Symbols](#)
- [Assistance](#)
- [Description](#)
- [Features](#)
- [Front Panel Features](#)
- [Interior Components](#)
- [Back Panel Features](#)
- [Drives](#)
- [Media and Media Protection](#)
- [Host Interface](#)

This manual contains information and instructions necessary for the operation of the PowerVault 132T library.

### Other Documents You Might Need

*Dell PowerVault 132T Library Quick Start Guide*

*Dell PowerVault 132T SNC User's Guide*




*Dell PowerVault SNC Manager User's Guide*

*Dell PowerVault Product Information Guide*

### Explanation of Symbols

[Table 1](#) provides a list of symbols that highlight important information.

**Table 1. Definition of symbols**

Symbol	Signal Word	Definition
	<b>CAUTION:</b>	A <b>CAUTION</b> indicates a potential for property damage, personal injury, or death.
	<b>NOTICE:</b>	A <b>NOTICE</b> indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.
	<b>NOTE:</b>	A <b>NOTE</b> indicates important information that helps you make better use of your storage device.


### Assistance

An operator is responsible for ensuring that only qualified personnel perform the following procedures on the equipment:

- 1 Prepare for operation
- 1 Set-up
- 1 Start-up
- 1 Operate
- 1 Shutdown
- 1 Maintenance
- 1 Restart

This manual provides sufficient training information for operation of your library. It is recommend that you read through the manual before using your library.

 **NOTICE:** Operation of the library by untrained personnel can lead to equipment malfunction and void the warranty.

 **CAUTION:** Some work and modification can only be performed with the appropriate qualifications and training (for example, replacement of the power supply). Most importantly, know and observe all safety rules before working with this equipment. See your [Product Information Guide](#) for complete information about safety precautions, working inside the computer, and protecting against electrostatic discharge.

### Dell Support

If problems cannot be solved with the aid of this document or if training is desired, contact [Dell Support](#).

### Description

The PowerVault 132T library, shown in [Figure 1](#), is designed to provide optimal density in both rackmount and desktop environments while offering features and functionality only found in mid-range libraries. The library can provide over one month of unattended backup and fits in only 4U (7 inches) of rack space.

For more information on capacity, see [Table 2](#).

**Figure 1. PowerVault 132T library**



**Table 2. PowerVault 132T library storage capacity\***

Drive type	Capacity
LTO-3	9.6 TB
LTO-2	4.8 TB
LTO-1	2.4 TB
SDLT-320	3.36 TB

\*Values represent native (uncompressed) capacity with IE slot included.

An additional drive sled can be added to double throughput and/or partition the library to multiple hosts. Mixed generation drive support is also available for LTO drives. For example, an LTO-3 drive can coexist with an LTO-1 drive in a single library. The library also comes standard with a barcode scanner that provides instant media verification and inventory. The Remote Management Unit can be utilized for centralizing your data backup control. Finally, the customer-installable Storage Networking Controller offers such functionality as 2-Gb/s Fibre Channel connection, firewall, and 3rd party copy capabilities.

The library is the next generation entry-level/mid-range product to meet the standards of Dell customers. For additional information or questions not included in this manual, see the Dell Support website at [support.dell.com](http://support.dell.com).

## Features

The following features are standard with your library:

**Multi-function Operator Panel.** The Operator Panel, located on the right above the IE slot, provides an easy to read bitmap display and a five-button keypad to permit you to monitor and control the operations of your library. The liquid crystal display (LCD) provides access to library status, commands, setup, and tools. See [Front Panel Features](#) for more information. The Operator Panel is described in more detail in [Operator Panel Keypad](#).

**Robotic System.** The robotic system is the media cartridge handling mechanism and responds to commands from the application software to move the cartridges between the storage slots, tape drives, and the IE slot.

**Partitioning.** Partitioning allows your single library to be logically partitioned so it will appear to a host as if it were two independent physical libraries. Each logical library (partition) can be independently controlled as though it were two different libraries.

**IE Slot.** The IE slot allows you to import and export tapes to/from the interior slots and drives without unlocking the media access door. See [Interior Components](#) for more information. The IE slot may also be configured by the user to act as a data storage slot.

**Magazines.** Removable cartridge magazines allow for the easy insertion and removal of tape cartridges.

**System Integrity.** The cartridge storage slots, drives, and robotic system are protected by a door that is lockable by key. Your library can also be configured for password access.

**Cartridge Inventory.** Whenever you power up your library, it will perform a physical inventory of slots.

**Barcode Scanner.** The barcode scanner reads barcode labels and presents label IDs to the LCD and the host without losing storage capacity.

**Remote Management Unit.** Your library is equipped with a Remote Management Unit (RMU), which provides remote library operation through a web browser.

**Manual Cartridge Use.** Individual cartridges can easily be transported to the library by manually opening the IE door and inserting the cartridge into the IE slot. The Operator Panel is then used to load the cartridge into another slot.

**Reverse Cartridge Protection.** The magazine and back storage slots employ a design that prevents the cartridges from being inserted incorrectly.

**Built-in Diagnostics.** Your library includes diagnostic firmware that tells you when drive head cleaning is required, reports diagnostic results, and drive operating status. Your library also includes real-time sensors monitoring of data locations and several types of diagnostic tests.

**AutoClean.** AutoClean enables the library to automatically clean the drives when cleaning is required.

**Error Diagnosis.** Your library includes an Error Log that is accessible from the Operator Panel.

**Stored Vital Product Data for Recovery.** Your library settings are stored on the RMU.

**Multiple Control Paths.** This feature allows your library to be controlled by more than one host system.

## Optional Features

The following features are optional in some library configurations. Instructions for installing and/or replacing these features can be found in [Installing/Replacing Hardware](#):

**Additional Drive.** If your library came with one drive, you can add an additional drive, increasing data access speed.

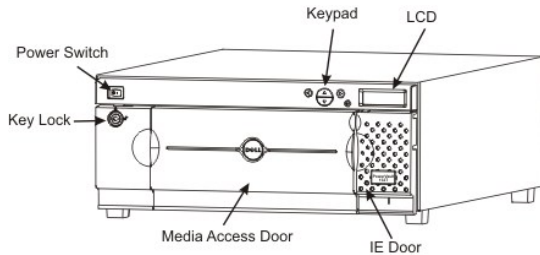
**Rackmount Kit.** Your library may be easily converted to a rackmount configuration. The available rackmount kit can be installed on any PowerVault 132T library.

**Storage Networking Controller.** Provides a Fibre Channel interface between the library and Storage Area Networks.

## Front Panel Features

The following graphic shows the features located on the front panel of your library.

Figure 2. Front panel

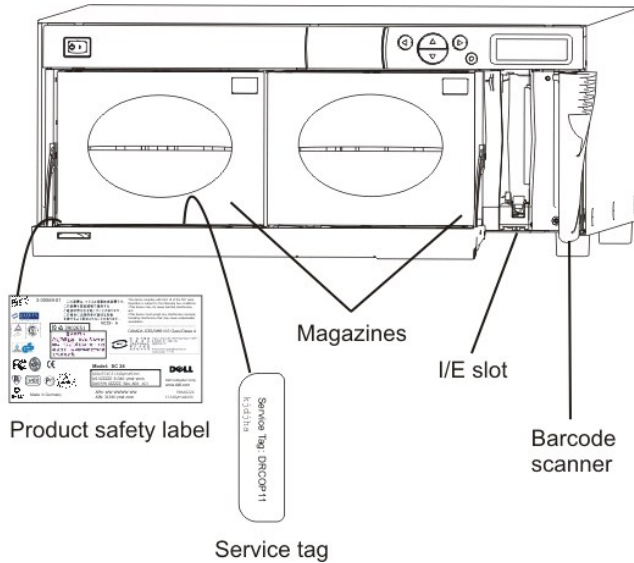


<b>Power Switch</b>	Two-position switch that applies power to or removes power from your library.
<b>Key Lock</b>	Lock for preventing unauthorized media insertion and removal.
<b>Media Access Door</b>	Door for loading and removing tape magazines. Door can be locked to prevent media insertion and removal.
<b>IE Door</b>	Door for access to the IE slot. The IE feature allows you to import or export tape cartridges with the media access door locked.
<b>LCD and Keypad (Operator Panel)</b>	The high-contrast LCD and keypad allow you to view the operational status of the library, perform system configuration, run commands, and view status messages. The LCD provides an easy-to-read bitmap display with LED backlight.

## Interior Components

The following graphic shows the components located behind the media access and IE doors of your library.

Figure 3. Interior view

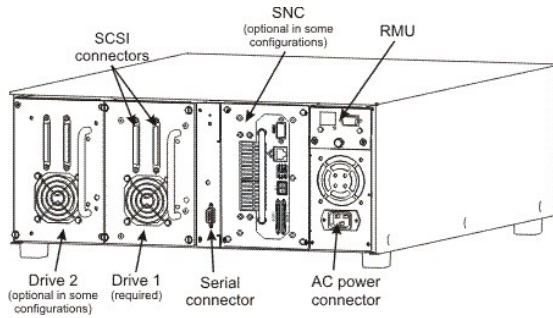


<b>Magazines</b>	Removable cartridge magazines that allow for the easy insertion and removal of tape cartridges. The magazines include transparent windows that allow for easy media viewing. The magazine handle is designed to allow for single-handed magazine installation and removal. Magazines can be stacked for easy storage.
<b>IE Slot</b>	Allows insertion and ejection of cartridges without interrupting the normal operation of the library.
<b>Barcode Scanner</b>	Reads barcode labels and presents label IDs to the LCD and the host.

## Back Panel Features

The following graphics show the features located on the back panel of your library.

Figure 4. Back panel (SCSI)



AC Power Connector	Receptacle for AC power cord.
SCSI Connectors	Connections for the interface cable that connects the unit with the host computer and/or other devices on the SCSI channel.
Serial Connector	Bi-directional RS-232 port for diagnostic purposes and firmware updates.
Drives	Tape cartridge drives. Your library can contain one or two drives.
Remote Management Unit (RMU)	RMU that allows remote access to the library via a web browser.
Storage Networking Controller (SNC)	SNC that provides a Fibre Channel interface.

## Drives

Your library can be equipped with either one or two drives. The tape drives are packaged in a common drive module that is designed so that you can easily add an additional drive or replace a drive. For more detailed information on the drives, see [Specifications](#).

## Media and Media Protection

[Table 3](#) lists the types of media formats that are supported.

Table 3. Supported media

Media Type	Capacity	Transfer Rate
LTO-3	400 GB	80 MB/second
LTO-2*	200 GB	35 MB/second
LTO-1*	100 GB	15 MB/second
SDLT-320	160 GB	16 MB/second
DLT IV**	40 GB	6 MB/second

\*Lower level media can be used in higher level drives; however, the capacity and transfer rates will be at the lower drive level. The library prevents higher level media from being used in lower level drives when the media is correctly barcoded.

\*\*DLT IV media can be used in the SDLT-320 drive as read only.

## Using WORM Cartridges

LTO-3 media are available in Write Once Read Many (WORM) format. Data stored on WORM tapes cannot be erased or altered. The barcode applied to a WORM cartridge uses the designation "LT". This ensures that the library manages the tape appropriately. For more information about barcodes, refer to [Barcode Labels](#).



If you try to write to a WORM tape that has been previously written to capacity, you will receive an error message. WORM tapes cannot be used to run diagnostics tests.

## Media Protection

The write-protect switch is used to prevent recording over existing data. To prevent recording or deleting, place the write-protect switch to the closed position (right). The drive senses the position of the switch and will not allow writing in this position. When inserting cartridges in the library, place the switch in the open position (left), unless you do not wish to record on a specific cartridge. Example media are shown in [Figure 5](#) and [Figure 6](#).

Figure 5. LTO data cartridge

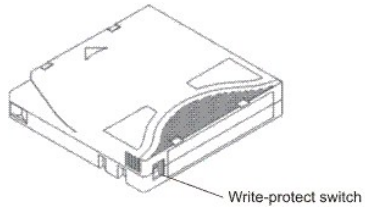
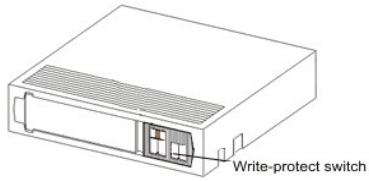


Figure 6. SDLT-320 data cartridge

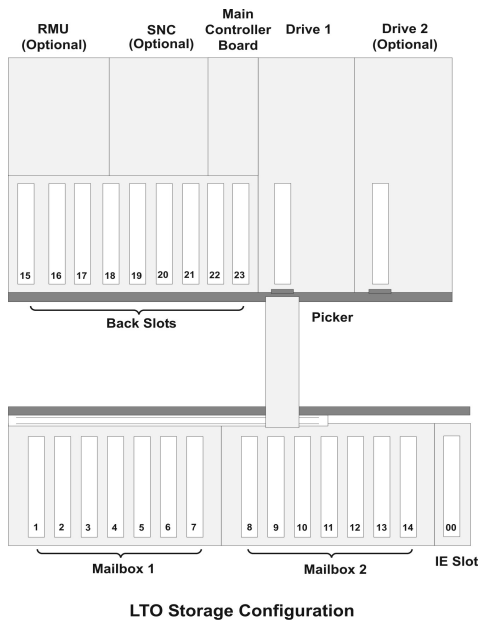


**NOTE:** Store data cartridges in a dry, cool environment.

**NOTICE:** Never reset or power down your computer or library while a function is in process or a tape is moving.

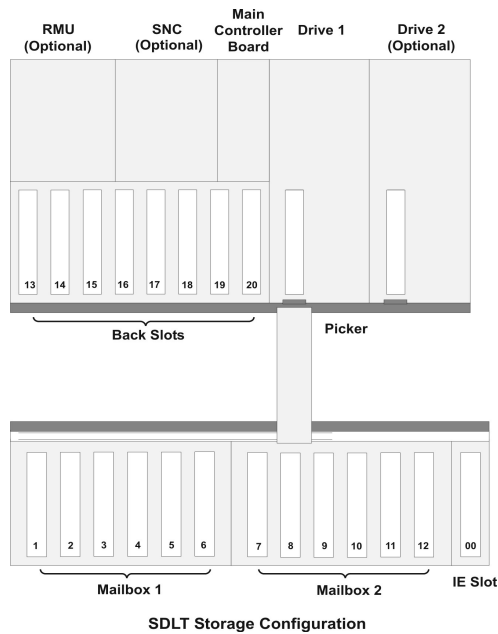
A representational view of media storage as it is laid out in a library configured for LTO media is shown in [Figure 7](#).

Figure 7. Storage layout for LTO media



A representational view of media storage as it is laid out in a library configured for SDLT-320 media is shown in [Figure 8](#).

Figure 8. Storage layout for SDLT-320 media



## Host Interface

The library is a SCSI target device supporting communication with a host through Fibre Channel or SCSI connections.

## Native Fibre Connections

A library supporting native fibre attachments communicates with a host through an intermediary LUN-1 (Logical Unit Number) interface in one or more installed drives. In this type of connection, a host is connected directly to a drive rather than a library. Communication is accomplished as a host sends commands to and receives status or responses from one or more LUN-1 enabled drives. LTO-3 drive modules support native fibre connections. Each drive has a single LC fibre connector located in back of the module for attachments.

## SCSI Connections

A SCSI drive module can be connected to a Low Voltage Differential (LVD) SCSI bus. Both ends of the bus must be terminated. The library can also be connected to a Storage Area Network (SAN) by means of an optional Storage Networking Controller (SNC). The SNC converts Fibre Channel protocol to parallel SCSI protocol.

## Host Adapter

Your library can be connected directly to a host by means of the appropriate host bus adapter card. The host adapter you choose depends on your system requirements and needs. If you are not sure about your host adapter requirements, call [Dell Support](#) and ask for assistance. The interface must be installed before you connect the library. For information about drivers, see [Library Driver Installation](#).

## Terminator

If the library is the last device on the SCSI chain, a terminator is required. The terminator attaches to the SCSI connector on the drive module. Be sure to use an LVD terminator. For information on installing the terminator, see [Connecting to a SCSI Bus](#).

## Application Software

A variety of backup and data storage software is available for use with your library. The software you use will depend upon your storage needs and the system you are using. Check with Dell Sales or Support if you have a question on the compatibility of a particular software package.

[Back to Contents Page](#)



# Using the Menus: Dell PowerVault 132T Tape Library User's Guide

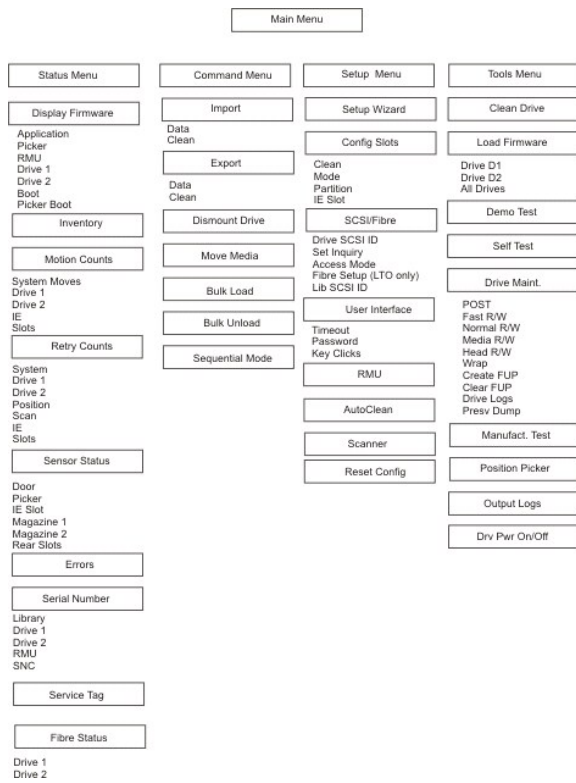
- [Understanding the Menu Tree Structure](#)
- [Using the Command Menu](#)
- [Using the Main Menu](#)
- [Using the Status Menu](#)
- [Using the Setup Menu](#)
- [Using the Tools Menu](#)

The Operator Panel provides a menu-driven operator interface to the library. The menus allow you to view and set the operating parameters of the library.

## Understanding the Menu Tree Structure

Each menu is accessible through the Operator Panel keypad. Refer to [Operator Panel Keypad](#) for an illustration and definition of the keypad. An illustration of the menu tree mapping is provided below.

Figure 1. Menu tree

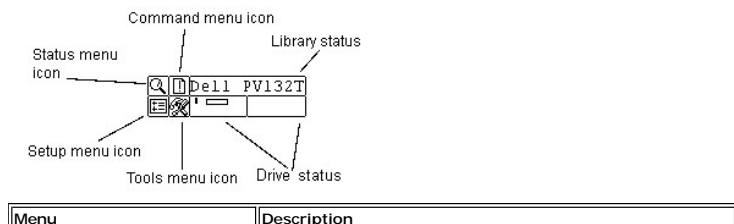





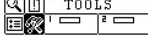
\* *Partition* will only appear in the **Configure Slots** menu when Rnd-Seq, Seq-Seq, LUN-Seq, Seq-LUN, or LUN-LUN mode are selected. For more information, see [What is Partitioning?](#)

## Using the Main Menu

The **Main** menu is the initial screen that allows you to access to the **Status**, **Command**, **Setup**, and **Tools** menus.

Figure 2. Main menu



	<p>The <a href="#">Status Menu</a> provides selections to:</p> <ul style="list-style-type: none"> <li>  <a href="#">Display Firmware Version</a></li> <li>  <a href="#">Display Inventory Information</a></li> <li>  <a href="#">Display Motion Counts</a></li> <li>  <a href="#">Display Retry Counts</a></li> <li>  <a href="#">Display Sensor Status</a></li> <li>  <a href="#">Display Error Log</a></li> <li>  <a href="#">Display Serial Number</a></li> <li>  <a href="#">Display Service Tag</a></li> <li>  <a href="#">Display Fibre Status</a></li> </ul>
	<p>The <a href="#">Command Menu</a> provides selections to:</p> <ul style="list-style-type: none"> <li>  <a href="#">Import Media</a></li> <li>  <a href="#">Export Media</a></li> <li>  <a href="#">Dismount Drive</a></li> <li>  <a href="#">Move Media</a></li> <li>  <a href="#">Bulk Load</a></li> <li>  <a href="#">Bulk Unload</a></li> <li>  <a href="#">Set Sequential Mode</a></li> </ul>
	<p>The <a href="#">Setup Menu</a> provides selections to:</p> <ul style="list-style-type: none"> <li>  <a href="#">Use the Setup Wizard</a></li> <li>  <a href="#">Configure Slots</a></li> <li>  <a href="#">Configure SCSI or Fibre Parameters</a></li> <li>  <a href="#">Configure the User Interface</a></li> <li>  <a href="#">Configure the RMU</a></li> <li>  <a href="#">Configure AutoClean</a></li> <li>  <a href="#">Configure Barcode Scanner</a></li> <li>  <a href="#">Restore Default Library Settings</a></li> </ul>
	<p>The <a href="#">Tools Menu</a> provides selections to:</p> <ul style="list-style-type: none"> <li>  <a href="#">Clean a Drive</a></li> <li>  <a href="#">Load Firmware</a></li> <li>  <a href="#">Run the Demo Test</a></li> <li>  <a href="#">Run the Self Test</a></li> <li>  <a href="#">Test Drive Maintenance</a></li> <li>  <a href="#">Perform a Manufacturing Test</a></li> <li>  <a href="#">Use the Position Picker</a></li> <li>  <a href="#">Export Log File</a></li> <li>  <a href="#">Turn Drive Power On or Off</a></li> </ul>

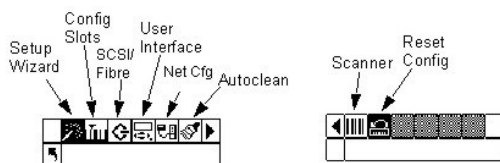
The following sections provide descriptions of each menu and instructions on how to use the options in each menu. This information is presented in the order that you would want to access information and configure options when you first set up your library.

## Using the Setup Menu

The **Setup** menu allows you to make library system settings. From the **Setup** menu you can:

- | Use the Setup Wizard
- | Configure Slots
- | Set SCSI and Fibre IDs
- | Configure the User Interface
- | Configure the RMU
- | Configure AutoClean
- | Configure the Barcode Scanner
- | Reset the library to default configuration

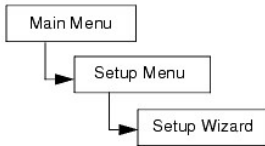
Figure 3. Setup menu



## Using the Setup Wizard

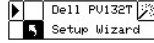


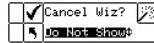




Setup Wizard walks you through the process of configuring your library. Using the Wizard, you can configure all of the desired settings from one location in the menu instead of going to each individual item in the menu. The first time you power on your library, you will be given the option to run the Setup Wizard. If you do not complete the Setup Wizard, each time you power on your library, you will be asked if you would like to run the Wizard. You have the ability to not complete the Wizard and select an option so that you will not be prompted to run it each time you power on the library.

Path:







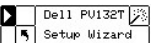







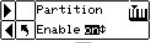




### Canceling the Setup Wizard

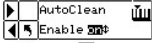

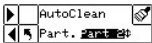
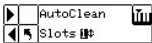


If you do not use the Setup Wizard to configure your library, and do not want to be prompted to use it each time you power up your library, you can cancel it by following the steps below.



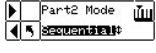









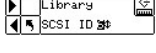




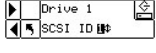





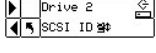




Selection	Description/Result
 <p><b>Step 1</b> At the Setup Wizard prompt, press  to select  (return arrow).</p>	Cancels the Setup Wizard.
 <p><b>Step 2</b> You will be prompted to cancel the Setup Wizard. Press  to select Do Not Show.</p>	
<p><b>Step 3</b> Press  to highlight Run  and then press .</p>	The Setup Wizard closes and will not be shown again at power up. To access the Setup Wizard, go to the <b>Setup</b> menu.


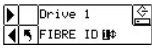





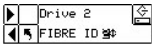





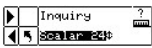









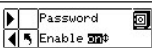











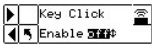




### Configuring Your Library With the Setup Wizard




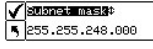
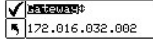
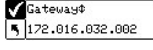

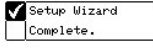
At any time, you can select  (return arrow) to exit the Setup Wizard and cancel changes.

Selection	Description/Result
 <p><b>Step 1</b> From the <b>Setup</b> menu, highlight  and press .</p>	Runs the Setup Wizard.
 <p><b>Step 2</b> Press  to begin using the Wizard.</p>	
 <p><b>Step 3</b> Press  and  to select the configuration of the IE slot.</p>	Available options are: <ul style="list-style-type: none"> <li>1 Import/Export: host will see one import/export slot and 23 data slots for LTO or 20 data slots for SDLT-320.</li> <li>1 Storage: appears as a valid storage location to the host application (host will see 24 data slots for LTO or 21 for SDLT-320). If partitioning is enabled, this slot will be in Partition 1.</li> </ul>
 <p><b>Step 4</b> Press  and then  to accept the changes and move to the next option.</p>	
 <p><b>Step 5</b> Press  and  to enable/disable partitioning.</p>	Available options are: <ul style="list-style-type: none"> <li>1 on: library is split into two partitions. The host will be affected (reduced slot/drive count) based on which partition it is attached to.</li> <li>1 off: host sees entire library</li> </ul>
<p><b>Step 6</b> Press  and then  to accept the changes and move to the next option.</p>	

 <p><b>Step 7</b> Press ▲ and ▼ to enable/disable AutoClean.</p>	<p>Available options are:</p> <ul style="list-style-type: none"> <li>1 on: The library will automatically clean the drives when cleaning is required. Overall slots available for data cartridges will be reduced. Host software cleaning features MUST be turned off.</li> <li>1 off: AutoClean is disabled</li> </ul> <p> <b>NOTE:</b> You can use the I/E slot for cleaning without configuring a cleaning slot. When you are prompted, insert the cleaning cartridge into the I/E slot.</p>
<p><b>Step 8</b> Press ► and then ● to accept the changes and move to the next option.</p>	
 <p><b>Step 9</b> If you enabled AutoClean, press ▲ and ▼ to select the mode for AutoClean. If you did not enable AutoClean, skip to Step 13.</p>	<p>Available options are:</p> <ul style="list-style-type: none"> <li>1 Both: Cleans both partitions</li> <li>1 Part 1: Only cleans Partition 1</li> <li>1 Part 2: Only cleans Partition 2</li> </ul>
<p><b>Step 10</b> Press ► and then ● to accept the changes and move to the next option.</p>	
 <p><b>Step 11</b> If you enabled AutoClean, press ▲ and ▼ to select the number of cleaning slots you would like to configure. If you did not enable AutoClean, skip to Step 19.</p>	<p>You can allocate up to four slots to be used for cleaning.</p> <p>Slots 20 - 23 can be used as cleaning slots for LTO; slots 17 - 20 for SDLT-320. For more information, see <a href="#">Configure Cleaning Slots</a>.</p>
<p><b>Step 12</b> Press ► and then ● to accept the changes and move to the next option.</p>	
 <p><b>Step 13</b> If you enabled partitioning, press ▲ and ▼ to select the number of slots for Partition 1 and Partition 2. If you did not enable partitioning, skip to Step 19.</p>	<p>The slots in the magazine on the left are always Partition 1 and the slots in the magazine on the right are always Partition 2.</p> <p><b>LTO</b></p> <ul style="list-style-type: none"> <li>1 You can designate a minimum of 8 slots for each Partition (7 magazine slots and 1 rear slot).</li> <li>1 You can designate a maximum of 15 slots for Partition 1 or 2 (7 magazine slots, 8 rear slots.)</li> <li>1 When in partition mode, the I/E slot cannot be configured as a storage slot. It must be a shared slot.</li> <li>1 If you configure cleaning slots, the total number of slots available for Partition 2 will be reduced. See <a href="#">Configure Cleaning Slots</a> for more information.</li> </ul> <p><b>SDLT-320</b></p> <ul style="list-style-type: none"> <li>1 You can designate a minimum of 7 slots for each Partition (6 magazine slots and 1 rear slot).</li> <li>1 You can designate a maximum of 13 slots for Partition 1 or 2 (6 magazine slots and 7 rear slots).</li> <li>1 When in partition mode, the I/E slot is cannot be configured as a storage slot. It must be a shared slot.</li> <li>1 If you configure cleaning slots, the total number of slots available for Partition 2 will be reduced. See <a href="#">Configure Cleaning Slots</a> for more information.</li> </ul>
<p><b>Step 14</b> Press ► and then ● to accept the changes and move to the next option.</p>	
 <p><b>Step 15</b> Press ▲ and ▼ to select the mode for Partition 1.</p>	<p><b>LTO</b></p> <ul style="list-style-type: none"> <li>1 Random: Allows your backup software to access any tape cartridge randomly. This is the mode that most host software will use.</li> <li>1 Sequential: Requires the backup software to write the data to each of the tape cartridges sequentially, starting with the first one. This mode is used if your host only recognizes tape drives and not libraries.</li> <li>1 LUN: Allows the host backup software to access the library on a different logical unit than the drives.</li> </ul>

	<p><b>SDLT-320</b></p> <ul style="list-style-type: none"> <li>1 Random: See description above.</li> <li>1 Sequential: See description above.</li> </ul> <p>For more information, see <a href="#">What is Partitioning?</a></p>
<p><b>Step 16</b> Press  and then  to accept the changes and move to the next option.</p>	
 <p><b>Step 17</b> Press  and  to select the mode for Partition 2.</p>	<p><b>LTO</b></p> <ul style="list-style-type: none"> <li>1 Sequential: Requires the backup software to write the data to each of the tape cartridges sequentially, starting with the first one</li> <li>1 LUN: Allows the host backup software to access the library on a different logical unit than the drives.</li> </ul> <p><b>SDLT-320</b></p> <ul style="list-style-type: none"> <li>1 Sequential: See description above.</li> </ul> <p>For more information, see <a href="#">What is Partitioning?</a></p>
<p><b>Step 18</b> Press  and then  to accept the changes and move to the next option.</p>	
 <p><b>Step 19</b> If you did not enable partitioning, press  and  to select the SCSI Mode for the library. If you did enable partitioning, skip to Step 20.</p>	<p>Available options are:</p> <ul style="list-style-type: none"> <li>1 Random: Allows your backup software to access any tape cartridge randomly. This is the mode that most host software will use.</li> <li>1 Sequential: Requires the backup software to write the data to each of the tape cartridges sequentially, starting with the first one. This mode is used if your host only recognizes tape drives and not libraries.</li> <li>1 LUN: Allows the host backup software to access the library on a different logical unit than the drives. This is the default mode for Fibre Channel tape drives.</li> </ul>
<p><b>Step 20</b> Press  and then  to accept the changes and move to the next option.</p>	
 <p><b>Step 21</b> Press  and  to set the SCSI ID of the Library.</p>	<p>You must choose a number between 0 and 7.</p>
<p><b>Step 22</b> Press  and then  to accept the changes and move to the next option. Refer to <a href="#">Step 31</a>.</p>	
 <p><b>Step 23</b> If Drive 1 is not a SCSI drive, refer to <a href="#">Step 24</a>.</p> <p>If Drive 1 is a SCSI drive, press  and  to set the SCSI ID for Drive 1.</p>	<p>For a SCSI drive, you must choose a number between 0 and 15.</p>
<p><b>Step 24</b> If Drive 1 is not a SCSI drive, press  to go to the fibre settings screen for Drive 1. Then go to <a href="#">Step 27</a>.</p> <p>If Drive 1 is a SCSI drive, press  and then  to accept the SCSI ID displayed for Drive 1 and move to the next option.</p>	
 <p><b>Step 25</b> If Drive 2 is not a SCSI drive, refer to <a href="#">Step 26</a>.</p> <p>If Drive 2 is a SCSI drive, press  and  to set the SCSI ID for Drive 2.</p>	<p>You must choose a number between 0 and 15.</p>
<p><b>Step 26</b> If Drive 2 is not a SCSI drive, press  to go to the fibre settings screen for Drive 1. Then go to <a href="#">Step 29</a>.</p> <p>If Drive 2 is a SCSI drive, press  and</p>	

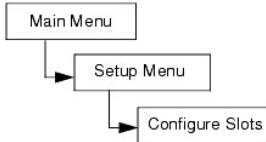
<p>then  to accept the SCSI ID displayed for Drive 1 and move to the next option.</p>	
<div data-bbox="300 247 451 294" style="border: 1px solid black; padding: 2px;">  </div> <p><b>Step 27</b> If Drive 1 is a fibre drive, press  and  to set the ID for Drive 1.</p>	<p>For a fibre drive, you must choose a number between 0-126.</p>
<p><b>Step 28</b> If you made changes, press  and then  to accept the changes and move to the next option. If you did not make changes, press  to go to the next option.</p>	
<div data-bbox="300 504 451 550" style="border: 1px solid black; padding: 2px;">  </div> <p><b>Step 29</b> If Drive 2 is a fibre drive, press  and  to set the ID for Drive 2.</p>	<p>For a fibre drive, you must choose a number between 0-126.</p>
<p><b>Step 30</b> If you made changes, press  and then  to accept the changes and move to the next option. If you did not make changes, press  to go to the next option.</p>	
<div data-bbox="300 741 451 787" style="border: 1px solid black; padding: 2px;">  </div> <p><b>Step 31</b> Press  and  to set the Inquiry mode.</p>	<p>Sets the inquiry string returned to the host in a SCSI inquiry command.</p> <p>Available options are:</p> <ul style="list-style-type: none"> <li>1 PowerVault 132T</li> <li>1 PowerVault 136T</li> <li>1 Scalar 24</li> <li>1 Scalar 100</li> </ul>
<p><b>Step 32</b> Press  and then  to accept the changes and move to the next option.</p>	
<div data-bbox="300 997 451 1043" style="border: 1px solid black; padding: 2px;">  </div> <p><b>Step 33</b> Press  and  to set the number of minutes for the Timeout value.</p>	<p>Sets the duration of inactivity on a submenu, which will cause the menu to go back to the Main screen.</p> <p>The timeout window is represented in minutes. You must specify a value between 1 and 9.</p> <p>The default setting is 1 minute.</p> <p>If you have a password set, after the timeout window has expired, the password will need to be re-entered to access the secure menu features.</p>
<p><b>Step 34</b> Press  and then  to accept the changes and move to the next option.</p>	
<div data-bbox="300 1291 451 1337" style="border: 1px solid black; padding: 2px;">  </div> <p><b>Step 35</b> Press  and  to enable/disable a Password.</p>	<p>Available options are:</p> <ul style="list-style-type: none"> <li>1 on: the password is required to enter any menu except <b>Status</b></li> <li>1 off: password is disabled</li> </ul>
<p><b>Step 36</b> Press  and then  to accept the changes and move to the next option.</p>	
<div data-bbox="300 1478 451 1524" style="border: 1px solid black; padding: 2px;">  </div> <p><b>Step 36</b> If you enabled a password, set the password by pressing  and  to change the value of the current field and  and  to move between fields. If you did not enable a password, skip to Step 35.</p>	<p>The current field will be highlighted. You must select a numeric value between 0 and 9 for all four fields.</p>
<p><b>Step 37</b> Press  and then  to accept the changes and move to the next option.</p>	
<div data-bbox="300 1734 451 1780" style="border: 1px solid black; padding: 2px;">  </div> <p><b>Step 38</b> Press  and  to enable/disable Key Clicks.</p>	<p>Available options are:</p> <ul style="list-style-type: none"> <li>1 on: an audible tone will be heard when buttons are pressed on the keypad</li> <li>1 off: key clicks disabled</li> </ul>
<p><b>Step 39</b> Press  and then  to accept</p>	

the changes and move to the next option.	
 <p><b>Step 37</b> Press ▲ and ▼ to enable/disable the barcode scanner.</p>	<p>Available options are:</p> <ul style="list-style-type: none"> <li>1 on: all media will be scanned for barcodes. Unlabeled or unreadable labeled media will generate a user message</li> <li>1 off: barcode scanner is disabled</li> </ul>
<p><b>Step 40</b> Press ► and then ● to accept the changes and move to the next option.</p>	
 <p><b>Step 41</b> Press ▲ and ▼ to select the barcode scanner mode.</p>	<p>Available options are:</p> <ul style="list-style-type: none"> <li>1 Default: The scanner will expect to read and will report to the host six characters. Optional one or two character media identifiers can be present but will not be reported. If you plan to use backup software to manage media based on the media identifier, this setting will need to be changed either to Media ID or Extended.</li> <li>1 Media ID: The scanner will expect to read and will report to the host seven or eight characters (six plus the media identifier).</li> <li>1 Extended: The scanner will read and report to the host between five and sixteen characters.</li> </ul>
<p><b>Step 42</b> Press ► and then ● to accept the changes and move to the next option.</p>	
 <p><b>Step 43</b> Set the IP Address by pressing ▲ and ▼ to change the value of the current field and ◀ and ▶ to move between fields.</p>	<p>The IP Address, Subnet Mask, and Gateway options are only present if a RMU is installed. These items set up the network configuration of the RMU.</p> <p>The current field will be highlighted. Make sure you enter a valid number for each field.</p>
 <p><b>Step 44</b> Set the Subnet mask by pressing ▲ and ▼ to change the value of the current field and ◀ and ▶ to move between fields.</p>	<p>The current field will be highlighted. Make sure you enter a valid number for each field.</p>
 <p><b>Step 45</b> Set the Gateway by pressing ▲ and ▼ to change the value of the current field and ◀ and ▶ to move between fields.</p>	<p>The current field will be highlighted. Make sure you enter a valid number for each field.</p>
 <p><b>Step 46</b> From the last field of the Gateway address, press ► to set the Gateway mask and highlight Run (✔).</p>	
 <p><b>Step 47</b> You have now completed the Setup Wizard. Press ● to accept all values and exit the wizard.</p>	
 <p><b>Step 48</b> Press ● to exit the wizard.</p>	

## Configuring Slots








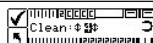


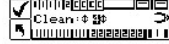
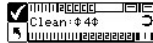



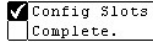

Configure Slots allows you to set up specific slots of your library to be allocated for various functions, such as cleaning and partitioning.

Path:



### Configure Cleaning Slots

This option allows you to designate specific rear slots to be used as cleaning slots. If you wish to enable AutoClean, you must configure at least one cleaning slot.




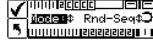











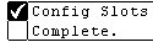

Selection	Description/Result
 <p><b>Step 1</b> From the <b>Setup</b> menu, highlight  and press .</p>	
 <p><b>Step 2</b> Press  and  to select <b>Clean</b>.</p>	Configures cleaning slots.
<p><b>Step 3</b> Press  to move to the next field.</p>	
 <p><b>Step 4</b> Press  and  to select the number of slots you would like to allocate as cleaning slots.</p>	<p>You can allocate up to four slots to be used for cleaning.</p> <p>Slots 20 - 23 can be used as cleaning slots for LTO or slots 17 - 20 for SDLT. When a slot is configured for cleaning, a <b>C</b> appears in that slot.</p> <p style="text-align: center;">configured as a cleaning slot</p>  <p><b>NOTES:</b> If partitioning is configured, the number of cleaning slots may be limited to allow at least one slot in Partition 2.</p> <p>Be sure to remove storage media from a slot before designating it as a cleaning slot.</p>
 <p><b>Step 5</b> Press  to highlight <b>Run</b>  and then press .</p>	The cleaning slots are now configured.
 <p><b>Step 6</b> A confirmation screen displays. Press  to dismiss.</p>	For more information on AutoClean, see <a href="#">Configure AutoClean</a> .

### Configure Modes

This option allows you to set up your library to run in Random, Sequential, or LUN mode.

Random	Allows your backup software to access any tape cartridge randomly. This permits you to logically divide cartridge usage to satisfy particular storage needs. This is the default setting if your library has SCSI drives.
Sequential	<p>Requires the backup software to write the data to each of the tape cartridges sequentially, starting with the first one. When all tape cartridges have been filled with data, the backup process will stop. This mode is used if your host software only recognizes tape drives and not libraries.</p> <p>Libraries set to Sequential mode always automatically load an empty drive. When the host gives the drive a command to unload, the library unloads the tape and automatically puts another one into the drive. If a library that is configured for Sequential mode is booted without a tape in a drive, a tape loads to the drive automatically.</p> <p>If you set your mode to Sequential, you will need to configure the sequential options. For more information on configuring sequential options, see <a href="#">Sequential</a>.</p>
LUN	LUN mode is used with host software applications that recognize the Medium Changer Logical Unit presented by a tape drive with LUN-1 capability. It is the capability of a tape drive to present both a SCSI Streaming device on Logical Unit Number 0 (LUN-0) as well as a SCSI Medium Changer device on LUN-1, that allows an application to communicate with and control both devices via a single path to the drive. This capability is independent of the physical transport layer, and allows more than 1 control path to library. This is the default mode if your library contains Fibre Channel drives.



Selection	Description/Result
 <p><b>Step 1</b> From the <b>Setup</b> menu, highlight  and press .</p>	
 <p><b>Step 2</b> Press  and  to select <b>Mode</b>.</p>	Configures library operational access modes.
<p><b>Step 3</b> Press  to move to the next field.</p>	
 <p><b>Step 4</b> Press  and  to select the backup mode.</p>	<p>The mode settings are:</p> <ul style="list-style-type: none"> <li>  Rnd: sets the library to Random mode</li> <li>  Seq: sets the library to Sequential mode</li> <li>  Rnd-Seq: sets Partition 1 to Random mode and Partition 2 to Sequential mode. By selecting this mode, you are creating a partitioned library.</li> <li>  Seq-Seq: sets both partitions to Sequential mode with each partition having its own starting point. By selecting this mode, you are creating a partitioned library.</li> </ul> <p>The LUN mode settings (for libraries supporting LTO drives) are:</p> <ul style="list-style-type: none"> <li>  LUN: configures the library as one partition library in LUN mode.</li> <li>  Seq-LUN: sets Partition 1 to Sequential mode and Partition 2 to LUN mode.</li> <li>  LUN-LUN: sets both partitions to LUN mode. Selecting this mode creates two logical libraries.</li> <li>  LUN-Seq: sets Partition 1 to LUN mode and Partition 2 to Sequential mode.</li> </ul> <p>For more information, see <a href="#">What is Partitioning?</a></p> <p>If you choose options that partition the library, the LCD will show you which slots have been designated for Partition 1 and Partition 2 by placing numbers in the slots. You can change the partitioning setup using <a href="#">Configure Partitions</a>. If partitioning is configured, be sure the IE slot is not configured as storage. It must be a shared slot.</p> <p>Partition 1    Partition 2</p>  <p>Partition 1    Partition 2</p>
 <p><b>Step 5</b> Press  to highlight <b>Run</b>  and then press .</p>	The library is configured to the specified modes.
 <p><b>Step 6</b> A confirmation screen displays. Press  to dismiss.</p>	

## Configure Partitions











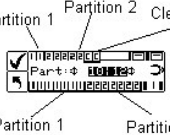




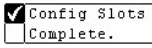

Partitioning is a way to allow your single library to be logically partitioned so it will appear to a host as if it were two independent physical libraries. Each logical library (partition) can be independently controlled as though it were two different libraries. The available partitioning types are random-sequential, sequential-sequential, LUN-sequential, LUN-LUN, and sequential-LUN; random-random is not supported.

Partition 1 can operate in random, sequential, or LUN (LTO only) modes. Partition 2 can operate in sequential or LUN (LTO only) modes. For more information, see [What is Partitioning?](#)

The partition size is configurable. Each partition is assigned one of the front magazines but may have a configurable number of rear slots (minimum 1) assigned. The first drive module is assigned to the first partition and the second drive module is assigned to the second partition. If the library is not


partitioned, all data slots and drive modules are assigned to a single partition. Follow the procedure below to configure partitions.












**NOTE:** Partitioning will only appear in the **Configure Slots** menu if you have specified Rnd-Seq, Seq-Seq, LUN-Seq, Seq-LUN, or LUN-LUN mode. LUN modes can be specified only on libraries with LTO drives. Otherwise, your library will operate as a single library.

Selection	Description/Result
 <p><b>Step 1</b> From the <b>Setup</b> menu, highlight  and press .</p>	
 <p><b>Step 2</b> Press  and  to select Partition.</p>	Configures partitions.
<p><b>Step 3</b> Press  to move to the next field.</p>	
 <p><b>Step 4</b> Press  and  to select number of slots you would like to designate for Partition 1 and Partition 2.</p>	<p>The slots in the magazine on the left are always Partition 1 and the slots in the magazine on the right are always Partition 2.</p> <p><b>LTO</b></p> <ul style="list-style-type: none"> <li>1 You can designate a minimum of 8 slots for each Partition (7 magazine slots and 1 rear slot).</li> <li>1 You can designate a maximum of 15 slots for Partition 1 (7 magazine slots, and 8 rear slots).</li> <li>1 You can designate a maximum of 15 slots for Partition 2 (7 magazine slots and 8 rear slots). If you configure cleaning slots, the total number of slots available for Partition 2 will be reduced. See <a href="#">Configure Cleaning Slots</a> for more information.</li> </ul> <p><b>SDLT-320</b></p> <ul style="list-style-type: none"> <li>1 You can designate a minimum of 7 slots for each Partition (6 magazine slots and 1 rear slot).</li> <li>1 You can designate a maximum of 13 slots for Partition 1 (6 magazine slots and 7 rear slots).</li> <li>1 You can designate a maximum of 13 slots for Partition 2 (6 magazine slots and 7 rear slots). If you configure cleaning slots, the total number of slots available for Partition 2 will be reduced. See <a href="#">Configure Cleaning Slots</a> for more information.</li> </ul> <p>As you scroll through the list of slots, the LCD will dynamically show you which slots are designated for Partition 1 and Partition 2 by placing numbers (1 or 2) in the slots.</p> <p>Partition 1    Partition 2    Cleaning slots</p>  <p>Partition 1    Partition 2</p>
 <p><b>Step 5</b> Press  to highlight Run  and then press .</p>	The library is configured for the specified partitions.
 <p><b>Step 6</b> A confirmation screen displays. Press  to dismiss.</p>	

### Configure IE Slot

This option allows you to configure the IE slot as either a storage slot or an Import/Export slot. If it is configured as a storage slot, it will show up as a valid storage slot to the host application.

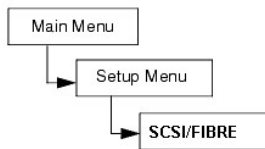
Selection	Description/Result
	

<p><b>Step 1</b> From the <b>Setup</b> menu, highlight  and press .</p>	
<p><b>Step 2</b> Press  and  to select <b>IE</b>.</p>	Configures IE slot.
<p><b>Step 3</b> Press  to move to the next field.</p>	
<p><b>Step 4</b> Press  and  to select configuration option.</p>	<p>Available options are:</p> <ul style="list-style-type: none"> <li>1 ST: appears as a valid storage location to the host application (host will see 24 data slots for LTO or 21 for SDLT-320).</li> <li>1 IE: host will see one import/export slot and 23 data slots for LTO or 20 for SDLT-320. If partitioning is enabled, this slot must be configured "IE" and not "ST".</li> </ul>
<p><b>Step 5</b> Press  to highlight <b>Run</b>  and then press .</p>	The IE slot is configured.
<p><b>Step 6</b> A confirmation screen displays. Press  to dismiss.</p>	

## Configuring SCSI and Fibre Parameters







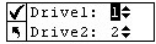



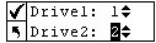


SCSI/Fibre allows you to set IDs for the library and drives, configure host access, and set emulation mode. If you have a fibre library, you can set the fibre loop ID, speed, and topology by means of this menu.

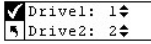





Path:



### Set Drive SCSI IDs




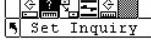
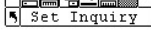




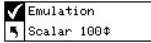



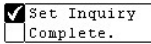

The SCSI IDs of the drives identifies which IDs the drives use to communicate with the host.

Selection	Description/Result
<p></p> <p><b>Step 1</b> From the <b>Setup</b> menu, highlight  and press .</p>	
<p></p> <p><b>Step 2</b> Highlight  and press .</p>	Sets the drive SCSI IDs.
<p></p> <p><b>Step 3</b> Press  and  to select the ID you would like to set for the Drive 1.</p>	You must choose a number between 0 and 15. The default ID is 1.
<p><b>Step 4</b> If you have two drives installed, press  to highlight Drive 2.</p>	
<p></p> <p><b>Step 5</b> Press  and  to select the ID you would like to set for the Drive 2.</p>	You must choose a number between 0 and 15. Ensure that this ID is different from the ID you set for Drive 1. The default ID is 2.

 <p><b>Step 6</b> Press  to highlight Run  and then press .</p>	The drive SCSI IDs are set.
 <p><b>Step 7</b> A confirmation screen displays. Press  to dismiss.</p>	










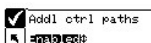
## Set Inquiry

Inquiry allows the host to see your library as another existing Dell product. This can be useful if the host software does not currently include drivers to communicate with the library.

Selection	Description/Result
 <p><b>Step 1</b> From the <b>Setup</b> menu, highlight  and press .</p>	
 <p><b>Step 2</b> Highlight  and press .</p>	Sets Inquiry string.
 <p><b>Step 3</b> Press  and  to select product you would like your library to appear as to the host.</p>	Sets the inquiry string returned to the host in a SCSI inquiry command.  Available options are:  <ul style="list-style-type: none"> <li>  PowerVault 132T</li> <li>  PowerVault 136T</li> <li>  Scalar 24</li> <li>  Scalar 100</li> </ul>
 <p><b>Step 4</b> Press  to highlight Run  and then press .</p>	The inquiry string is set.
 <p><b>Step 5</b> A confirmation screen displays. Press  to dismiss.</p>	

## Access Mode

Access Mode allows you to set additional control paths, which allows the library to be controlled by more than one host. The library must be in LUN mode for you to use this feature. This feature is not available for libraries with SDLT drives.

Selection	Description/Result
 <p><b>Step 1</b> From the <b>Setup</b> menu, highlight  and press .</p>	
 <p><b>Step 2</b> Highlight  and press .</p>	Sets Access mode.
 <p><b>Step 3</b> Press  and  to enable/disable the Control Path Mode.</p>	Enables or disables the selected Control Path Mode.  Available options are:  <ul style="list-style-type: none"> <li>  Enabled</li> <li>  Disabled</li> </ul>
	The Access mode is set.

<p><b>Step 4</b> Press  to highlight Run  and then press .</p>	
<p><b>Step 5</b> A confirmation screen displays. Press  to dismiss.</p>	

### Fibre Setup







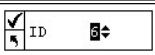


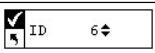



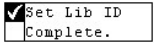

Fibre Setup allows you to set adjust settings for fibre drives. You can set the Loop ID, the drive speed, and the topology of the connection. This feature is not available for libraries with SDLT drives.

Selection	Description/Result
<p><b>Step 1</b> From the Setup menu, highlight  and press .</p>	
<p><b>Step 2</b> Highlight  and press .</p>	Sets Fibre Channel parameters.
<p><b>Step 3</b> Press  and  to select the drive for which you want to adjust the settings.</p>	Chooses Drive 1. If Drive 1 is not a fibre drive, the configurable parameters area uses the placeholder NA (not available).
<p><b>Step 4</b> After you have selected a fibre drive, press  to move to the configurable parameters area. The first parameter is Loop ID.</p>	
<p><b>Step 5</b> Press  to move to the Loop ID values. Press  and  until the Loop ID you want to use is displayed.</p>	Sets the Loop ID.  For Loop ID you must choose a number between 0 and 127.
<p><b>Step 6</b> Press  to move to the parameters area. Press  to get Speed.</p>	
<p><b>Step 7</b> Press  to move to the speed values. Press  and  to select the speed you would like to set.</p>	Sets the Fibre Channel speed.
<p><b>Step 8</b> Press  to move to the parameters area. Press  to get Topol (topology).</p>	
<p><b>Step 9</b> Press  to move to the topology values. Press  and  to select the topology you would like to set.</p>	For topology, choose one of the following: <ul style="list-style-type: none"> <li>1 Auto L: Auto-Configure, trying L-Port first</li> <li>1 Auto N: Auto-Configure, trying N-Port first</li> <li>1 N Port: Point-to-Point</li> <li>1 L Port: Loop</li> </ul>
<p><b>Step 10</b> Press  to highlight Run  and</p>	The fibre setup is complete.

then press .

### Set Library SCSI ID

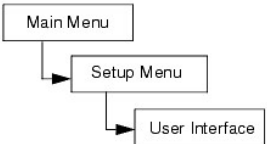
The SCSI ID of the library identifies which ID the library uses to communicate with the host.

Selection	Description/Result
 <p><b>Step 1</b> From the <b>Setup</b> menu, highlight  and press .</p>	Sets SCSI IDs.
 <p><b>Step 2</b> Highlight  and press .</p>	Sets the library SCSI ID. You must have at least one partition set to Random mode to use this option. See <a href="#">Configure Modes</a> for more information.
 <p><b>Step 3</b> Press  and  to select the number you would like to set for the library.</p>	You must choose a number between 0 and 7. The default ID is 0.
 <p><b>Step 4</b> Press  to highlight Run  and then press .</p>	The library SCSI ID is set.
 <p><b>Step 5</b> A confirmation screen displays. Press  to dismiss.</p>	

### Configure the User Interface







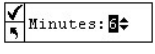


User Interface allows you to configure the LCD timeout, password, and key click settings.





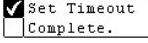

Path:



### Set Timeout







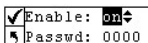



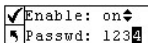




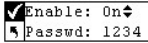



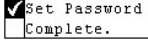

Timeout selects how long the library is available for operator menu selections before it automatically returns to the Main menu due to screen inactivity. It is designed to provide you with security for your system.

Selection	Description/Result
 <p><b>Step 1</b> From the <b>Setup</b> menu, highlight  and press .</p>	
 <p><b>Step 2</b> Highlight  and press .</p>	Sets timeout window.
 <p><b>Step 3</b> Press  and  to select the value of the timeout window.</p>	The timeout window is represented in minutes. You must specify a value between 1 and 9. The default setting is 1 minute.

	If you have a password set, after the timeout window has expired, the password will need to be re-entered to access the library.
 <p><b>Step 4</b> Press  to highlight Run  and then press .</p>	The timeout value is set.
 <p><b>Step 5</b> A confirmation screen displays. Press  to dismiss.</p>	







## Set Password

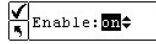
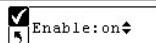
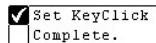
Password allows you to enable or disable a password for access to the library. This enables you to prevent unauthorized personnel from disrupting the operation of the library. If a password is set, it will be required to view or use any of the options in the **Setup**, **Command**, or **Tools** menus. If you have set a timeout value, after the specified number of minutes of inactivity, you will automatically be logged out and you will have to re-enter your password. By default, there is no password set on your library.

Selection	Description/Result
 <p><b>Step 1</b> From the <b>Setup</b> menu, highlight  and press .</p>	
 <p><b>Step 2</b> Highlight  and press .</p>	Sets password.
 <p><b>Step 3</b> Press  and  to Enable/Disable the password function.</p>	Available options are: <ul style="list-style-type: none"> <li>1 on: password is required to access secure menu features</li> <li>1 off: disabled</li> </ul>
<p><b>Step 4</b> Select  to move to the Password field.</p>	
 <p><b>Step 5</b> Set a password by pressing  and  to change the value of the current field and  and  to move between fields.</p>	The current field will be highlighted. You must select a numeric value between 0 and 9 for all four fields
 <p><b>Step 6</b> From the last field of the password, press  to highlight Run  and then press .</p>	The password is set.
 <p><b>Step 7</b> A confirmation screen displays. Press  to dismiss.</p>	Once you have set a password, you can turn it on and off by following Steps 1 - 3 above. You can change the password by following Steps 1 through 6.

## Set Key Clicks

Key Clicks allows you to enable or disable an audible tone when the keys on the keypad are pressed.

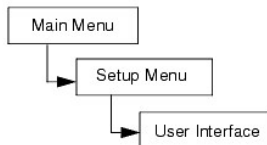
Selection	Description/Result
 <p><b>Step 1</b> From the <b>Setup</b> menu, highlight  and press .</p>	
 <p><b>Step 2</b> Highlight  and press .</p>	Sets key clicks.


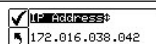
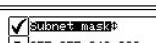
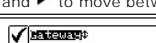
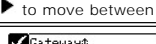
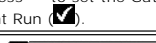
 <p><b>Step 3</b> Press ▲ and ▼ to Enable/Disable the key click function.</p>	<p>Available options are:</p> <ul style="list-style-type: none"> <li>1 on: turns on audible tone</li> <li>1 off: disabled</li> </ul>
 <p><b>Step 4</b> Press ► to highlight Run (✔) and then press ◂.</p>	<p>Key clicks are set.</p>
 <p><b>Step 5</b> A confirmation screen displays. Press ◂ to dismiss.</p>	

## Configuring the RMU

The Remote Management Unit (RMU) provides remote host operation through a web browser. Once you have installed the RMU, you configure it using this menu option. For more information on installing/replacing the RMU, see [Replacing the Remote Management Unit](#).

Path:



Selection	Description/Result
 <p><b>Step 1</b> From the Setup menu, highlight RMU and press ◂.</p>	<p>Configures the RMU.</p> <p>An error will appear if an RMU is not installed or is not functioning properly.</p>
 <p><b>Step 2</b> Set the IP Address by pressing ▲ and ▼ to change the value of the current field and ◂ and ▸ to move between fields.</p>	<p>The current field will be highlighted. Make sure you enter a valid number for each field.</p>
 <p><b>Step 3</b> Set the Subnet mask by pressing ▲ and ▼ to change the value of the current field and ◂ and ▸ to move between fields.</p>	<p>The current field will be highlighted. Make sure you enter a valid number for each field.</p>
 <p><b>Step 4</b> Set the Gateway by pressing ▲ and ▼ to change the value of the current field and ◂ and ▸ to move between fields.</p>	<p>The current field will be highlighted. Make sure you enter a valid number for each field.</p>
 <p><b>Step 5</b> From the last field of the Gateway address, press ▸ to set the Gateway mask and highlight Run (✔).</p>	
 <p><b>Step 6</b> A confirmation screen displays. Press ◂ to accept the RMU settings.</p>	<p>Your RMU is configured and ready for use.</p>

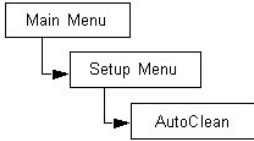
## Configure AutoClean

AutoClean is managed through the library and operates independent of the host application. AutoClean detects when a drive needs to be cleaned and automatically cleans it without requiring user intervention. To use the AutoClean feature, you must have at least one slot configured as a cleaning slot. For more information on configuring cleaning slots, see [Configure Cleaning Slots](#). The library will track the usage of the cleaning tape and post an alert message on the LCD once the cleaning tape has expired and requires you to export the tape.







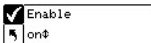



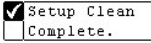



There are two methods for AutoClean: with a partitioned library and with an unpartitioned library.







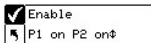



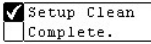

Path:



### AutoClean Unpartitioned Library

Selection	Description/Result
 <p><b>Step 1</b> From the Setup Menu, highlight  and press .</p>	Configures automatic cleaning of drives.
 <p><b>Step 2</b> Press  and  to Enable/Disable the autoclean function.</p>	Available options are: <ul style="list-style-type: none"> <li>1 on: the library will automatically clean the drives when cleaning is required. Overall slots available for data cartridges will be reduced. Host software cleaning features MUST be turned off.</li> <li>1 off: disabled</li> </ul>
 <p><b>Step 3</b> Press  to highlight Run  and then press .</p>	AutoClean is configured.
 <p><b>Step 4</b> A confirmation screen displays. Press  to dismiss.</p>	

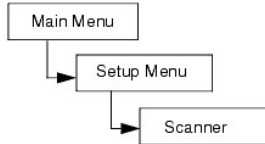
### AutoClean Partitioned Library




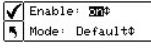



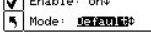


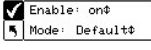



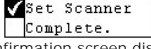

Selection	Description/Result
 <p><b>Step 1</b> From the Setup Menu, highlight  and press .</p>	Configures automatic cleaning of drives.
 <p><b>Step 2</b> Press  and  to select one of the options.</p>	Available options are: <ul style="list-style-type: none"> <li>1 P1 on P2 on: AutoClean is enabled for both partitions</li> <li>1 P1 on P2 off: AutoClean is enabled for partition 1 only</li> <li>1 P1 off P2 on: AutoClean is enabled for partition 2 only</li> <li>1 P1 off P2 off: AutoClean is disabled for both partitions</li> </ul>
 <p><b>Step 3</b> Press  to highlight Run  and then press .</p>	AutoClean is configured.
 <p><b>Step 4</b> A confirmation screen displays. Press  to dismiss.</p>	

## Configure Barcode Scanner

Scanner enables or disables the barcode scanner. The barcode scanner will read and report the information that it scans and will display this information on the Operator Panel. The library will report the barcode information to the host according to the mode it is configured for and will display alert messages on the Operator Panel LCD if the scanned barcode does not match the barcode length and media identifier requirements of the mode.

Path:

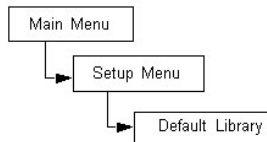


Selection	Description/Result
 <p><b>Step 1</b> From the <b>Setup</b> menu, highlight  and press .</p>	Configures the barcode scanner.
 <p><b>Step 2</b> Press  and  to enable/disable the barcode scanner.</p>	Available options are: <ul style="list-style-type: none"> <li>1 on: all media will be scanned for barcodes. Unlabeled or unreadable labeled media will generate a user message</li> <li>1 off: disabled</li> </ul>
<p><b>Step 3</b> Press  to move to next field.</p>	
 <p><b>Step 4</b> Press  and  to select the scanner mode.</p>	Available options are: <ul style="list-style-type: none"> <li>1 Default: The scanner will expect to read and will report to the host six characters. Optional one or two character media identifiers can be present but will not be reported. If you plan to use backup software to manage media based on the media identifier, this setting will need to be changed either to Media ID or Extended.</li> <li>1 Media ID: The scanner will expect to read and will report to the host seven or eight characters (six plus the media identifier).</li> <li>1 Extended: The scanner will read and report to the host between five and sixteen characters.</li> </ul>
 <p><b>Step 5</b> Press  to highlight Run  and then press .</p>	Your barcode scanner is configured and ready for use.
 <p><b>Step 6</b> A confirmation screen displays. Press  to dismiss.</p>	




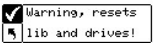

## Restore Default Library Settings

Default Library allows you to reset your library to the default settings. For more information on the default values, see [Configuring your Library](#).

Path:



Selection	Description/Result
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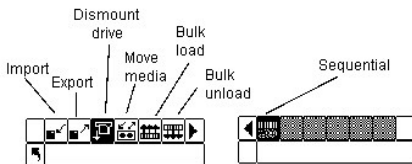
 <p><b>Step 1</b> From the <b>Setup</b> menu, highlight  and press .</p>	Resets the library configuration.
 <p><b>Step 2</b> A warning screen will prompt you to ensure that you want to reset the library configuration. Press  to continue.</p>	The library will reboot and will be set to the default configuration.

## Using the Command Menu

The **Command** menu provides access to commands that cause motion within the library. From the **Command** menu, you can:

- 1 Import media
- 1 Export media
- 1 Dismount drive
- 1 Move media
- 1 Bulk Load media
- 1 Bulk Unload media
- 1 Set Sequential mode options

Figure 4. Command menu



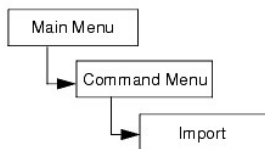
## Importing and Exporting Media

Import allows you to move a data or cleaning tape cartridge from the IE slot to another location in your library. This allows you to insert a tape into the library without opening the front door. If your IE slot is configured as a storage slot, you will need to remove any present data cartridge before running this command.







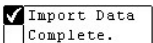

There are two import options: Import Data Cartridge and Import Cleaning Cartridge. To import a cleaning cartridge, you must first configure a cleaning slot location. For more information on configuring cleaning slots, see [Configure Cleaning Slots](#). There are two methods for importing a data cartridge: with a partitioned library and with an unpartitioned library.

- ⚠ **NOTICE:** When a tape is inserted into the IE slot, the picker may grab the tape to scan it and then place the tape back into the IE slot or another slot in the library. This process can take up to 11 seconds, and during that time you should not insert another tape into the IE slot.

Path:







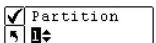


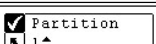



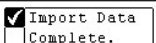



## Import Data Cartridge for Unpartitioned Library




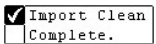

Selection	Description/Result
<p><b>Step 1</b> Open the IE door and insert a data cartridge into the IE Slot.</p>	
 <p><b>Step 2</b> From the <b>Command</b> menu, highlight  and press .</p>	Imports media from IE slot.
 <p><b>Step 3</b> Highlight  and press .</p>	Imports a data cartridge.
 <p><b>Step 4</b> A confirmation screen displays. Press .</p>	The data cartridge is imported to the first available slot starting with Slot 1.

 to dismiss.	
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
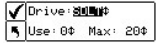



### Import Data Cartridge for Partitioned Library


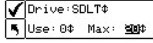
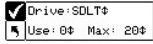
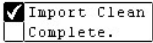
Selection	Description/Result
<b>Step 1</b> Open the IE door and insert a data cartridge into the IE Slot.	
 <b>Step 2</b> From the <b>Command</b> menu, highlight  and press  .	Imports media from IE slot.
 <b>Step 3</b> Highlight  and press  .	Imports a data cartridge.
 <b>Step 4</b> Press  and  to select the partition you wish to import the cartridge into.	
 <b>Step 5</b> Press  to highlight <b>Run</b>  and then press  .	The data cartridge is imported to the first available slot in the specified partition.
 <b>Step 6</b> A confirmation screen displays. Press  to dismiss.	

### Import LTO Cleaning Cartridge

Selection	Description/Result
<b>Step 1</b> Open the IE door and insert a cleaning cartridge into the IE Slot.	LTO tapes are read by the drive after being loaded into the drive. The number of times a cartridge is used is tracked by the <b>Status—&gt; Inventory</b> command.
 <b>Step 2</b> From the <b>Command</b> menu, highlight  and press  .	Imports media from IE slot.
 <b>Step 3</b> A confirmation screen displays. Press  to dismiss.	The cleaning use count is tracked automatically on the cartridge. The maximum use count is 50.

### Import SDLT Cleaning Cartridge

Selection	Description/Result
<b>Step 1</b> Open the IE door and insert a cleaning cartridge into the IE Slot.	
 <b>Step 2</b> From the <b>Command</b> menu, highlight  and press  .	Imports media from IE slot.
 <b>Step 3</b> Highlight  and press  .	Imports a cleaning cartridge. To use this feature, you must have a cleaning slot configured. See <a href="#">Configure Cleaning Slots</a> for more information.
 <b>Step 4</b> Press  and  to select the Drive type.	
<b>Step 5</b> Press  to move to next field.	

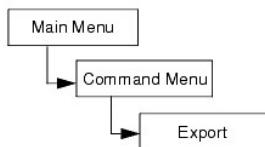
 <p><b>Step 6</b> Press ▲ and ▼ to select the how many times the cleaning tape has been used.</p>	<p>You will need to specify how many times this cartridge has been used, if any.</p>
<p><b>Step 7</b> Press ► to move to next field.</p>	
 <p><b>Step 8</b> Press ▲ and ▼ to set the maximum number of times the cleaning tape can be used.</p>	<ul style="list-style-type: none"> <li>1 For SDLT-320 media, the maximum number of uses is 20.</li> <li>1 You can specify a different number, if you wish to restrict the number of times this cleaning cartridge will be used.</li> </ul>
 <p><b>Step 9</b> Press ► to highlight Run (✓) and then press ●.</p>	<p>The cleaning cartridge is imported to the first available cleaning slot.</p>
 <p><b>Step 10</b> A confirmation screen displays. Press ● to dismiss.</p>	

## Export Media






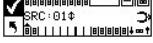
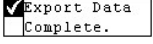
Export allows you to move a data or cleaning tape cartridge from the source slot you choose to the IE slot without opening the front door. If the IE slot is configured as a storage slot, you will not be able to export data cartridges. For more information on configuring the IE slot, see [Configure IE Slot](#).

You can use the Move Media command to export data cartridges when the IE slot is configured as a data slot. For more information, see [Moving Media](#).

Path:



## Export Data Cartridge

Selection	Description/Result
<p><b>Step 1</b> Open the IE door and check the IE slot to make sure that it is empty. If a tape is present, remove it.</p>	
 <p><b>Step 2</b> From the <b>Command</b> menu, highlight the icon with the arrow pointing to the top right corner  and press ●.</p>	<p>Exports media to IE slot.</p>
 <p><b>Step 3</b> Highlight the icon with the "D" in the top left corner  and press ●.</p>	<p>Exports a data cartridge.</p>
 <p><b>Step 4</b> Press ▲ and ▼ to select the slot you would like to export the media from.</p>	<p>SRC = source In this example, the tape cartridge in slot 01 is to be exported to the IE slot.</p>
 <p><b>Step 5</b> Press ► to highlight Run (✓) and then press ●.</p>	<p>The specified data cartridge is exported to the IE slot.</p>
 <p><b>Step 6</b> A confirmation screen displays. Press ● to dismiss.</p>	
<p><b>Step 7</b> You can continue to export data</p>	

cartridges, or you can exit to the **Command** menu. Press **▶** twice to highlight **⏏** and then press **⏏** to return to the **Command** menu.

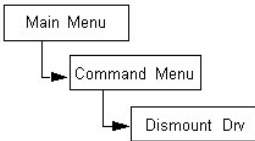
### Export Cleaning Cartridge


Selection	Description/Result
<p><b>Step 1</b> Open the IE door and check the IE slot to make sure that it is empty. If a tape is present, remove it.</p>	
 <p><b>Step 2</b> From the <b>Command</b> menu, highlight the icon with the arrow pointing to the top right corner <b>▶</b> and press <b>⏏</b>.</p>	Exports media to IE slot.
 <p><b>Step 3</b> Highlight the icon with the "C" in the top left corner <b>▶</b> and press <b>⏏</b>.</p>	Exports a cleaning cartridge.
 <p><b>Step 4</b> Press <b>▲</b> and <b>▼</b> to select the slot you would like to export the media from.</p>	<p>SRC = source            Cln Rmn = number of cleanings remaining on cartridge</p> <p>Cleaning cartridges can be stored in slots 20 - 23 for LTO or slots 17 - 20 for SDLT-320.</p> <p>In this example, the tape cartridge in slot 23 is to be exported to the IE slot.</p>
 <p><b>Step 5</b> Press <b>▶</b> to highlight Run (<b>✓</b>) and then press <b>⏏</b>.</p>	The specified cleaning cartridge is exported to the IE slot.
 <p><b>Step 6</b> A confirmation screen displays. Press <b>⏏</b> to dismiss.</p>	
<p><b>Step 7</b> You can continue to export cleaning cartridges, or you can exit to the <b>Command</b> menu. Press <b>▶</b> twice to highlight <b>⏏</b> and then press <b>⏏</b> to return to the <b>Command</b> menu.</p>	

### Dismount Drive

Dismount Drive unloads all drives and returns cartridges to their source slots.

Path:

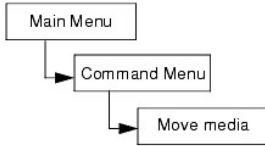


Selection	Description/Result
 <p><b>Step 1</b> From the <b>Command</b> menu, highlight <b>⏏</b> and press <b>⏏</b>.</p>	Dismounts drives.
<p><b>Step 2</b> The cartridges are unloaded from the drives and returned to their source slots.</p>	

### Moving Media

Move media allows you to move a tape cartridge from an existing position to a new position. You also use this function to manually insert a tape into a drive or remove a tape from a drive.

Path:












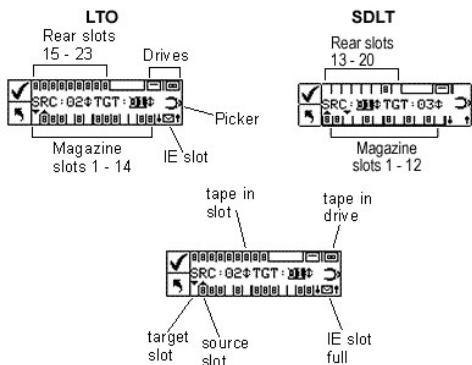

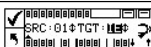

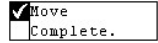
Selection	Description/Result
 <p><b>Step 1</b> From the <b>Command</b> menu, highlight  and press .</p>	Moves media within your library.
 <p><b>Step 2</b> Press  and  to select the source slot.</p>	<p>SRC = Source Slot TGT = Target Slot</p> <p>The move media screen <a href="#">(see Figure 5)</a> provides a visual representation of the storage slots in your library.</p> <p>Magazine slots:</p> <ul style="list-style-type: none"> <li>1 shown on the bottom of the screen</li> <li>1 numbered sequentially from left to right 01 to 14 for LTO and 01 to 12 for SDLT-320</li> </ul> <p>Rear slots:</p> <ul style="list-style-type: none"> <li>1 shown on the top of the screen</li> <li>1 numbered sequentially from left to right 15 to 23 for LTO and 13 to 20 for SDLT-320</li> </ul> <p>IE slot:</p> <ul style="list-style-type: none"> <li>1 shown on the bottom right of the screen</li> <li>1   arrows indicate configured as IE slot (represented by IE in SRC/TGT fields)</li> <li>1  vertical bars indicate configured as data slot (represented by 00 in SRC/TGT fields)</li> </ul> <p>Drives:</p> <ul style="list-style-type: none"> <li>1 shown on top right of the screen</li> <li>1 indicated by D1 or D2 in the SRC/TGT field</li> </ul>

Figure 5. Magazine Slot Configuration



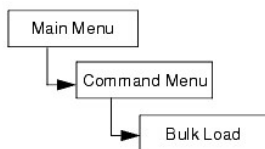
Selection	Description/Result
<p><b>Step 3</b> Press  to move the cursor to the target field.</p>	
	In this example, the cartridge in the source slot 01 is moved to the target slot IE.

<p><b>Step 4</b> Press ▲ and ▼ to select the target slot.</p>	
 <p><b>Step 5</b> Press ► to highlight Run (✓) and then press ●.</p>	The media is moved from the specified source to the specified target location.
 <p><b>Step 6</b> A confirmation screen displays. Press ● to dismiss.</p>	
<p><b>Step 7</b> You can continue to move media, or you can exit to the <b>Command</b> menu. Press ► twice to return to the <b>Command</b> menu.</p>	


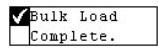
## Bulk Load

Bulk Load allows you to move multiple tapes from the magazines to the rear slots with one command. For more information on partitioning, see [Configure Partitions](#).


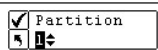

Path:





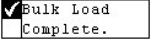

## Unpartitioned Library Bulk Load

Selection	Description/Result
 <p><b>Step 1</b> From the <b>Command</b> menu, highlight Bulk Load and press ●.</p>	Moves cartridges from magazines to rear slots.
<p><b>Step 2</b> The bulk load operation begins. The operation can be canceled at any time by pressing ●.</p>	The library will begin loading the rear slots by selecting the left-most available cartridge in the front left magazine, and placing it in the left-most available rear slot. The Bulk Load will continue until either there are no more tapes in the front magazines, or there are no more available slots in the rear.
 <p><b>Step 3</b> When the bulk load is complete, a completion screen is displayed. Press ● to dismiss the screen.</p>	

## Partitioned Library Bulk Load

Selection	Description/Result
 <p><b>Step 1</b> From the <b>Command</b> menu, highlight Bulk Load and press ●.</p>	Moves cartridges from magazines to partitioned rear slots.
 <p><b>Step 2</b> Press ▲ and ▼ to select the partition you want to move cartridges to.</p>	Available options are: <ol style="list-style-type: none"> <li>Partition 1: will move cartridges from the left magazine to the available rear Partition 1 slots.</li> <li>Partition 2: will move cartridges from the right magazine to the available rear Partition 2 slots.</li> </ol>
 <p><b>Step 3</b> Press ► to highlight Run (✓) and</p>	

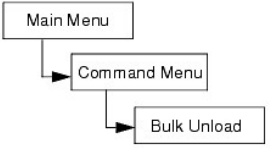


then press  .	
<p><b>Step 4</b> The bulk load operation begins. The operation can be canceled at any time by pressing .</p>	<p><b>Bulk Load for Partition 1</b> - The library will begin loading the rear slots by selecting the left-most available cartridge in the front left magazine (Magazine 1), and placing it in the left-most available rear slot for Partition 1. The Bulk Load will continue until either there are no more tapes in the front magazine, or there are no more available slots in the rear. Note, rear slots identified as Partition 1 can only be bulk loaded from Magazine 1, and rear slots identified as Partition 2 can only be bulk loaded from Magazine 2 while partitioning is enabled.</p>
<p></p> <p><b>Step 5</b> When the bulk load is complete, a completion screen is displayed. Press  to dismiss the screen.</p>	




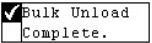

### Bulk Unload

Bulk Unload allows you to move all of the tapes from the rear slots to the front magazines with one command. For more information on partitioning, see [Configure Partitions](#).




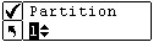


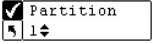


Path:








### Unpartitioned Library Bulk Unload

Selection	Description/Result
<p></p> <p><b>Step 1</b> From the <b>Command</b> menu, highlight  and press .</p>	<p>Moves cartridges from rear slots to magazines.</p>
<p></p> <p><b>Step 2</b> When the bulk load is complete, a completion screen is displayed. Press  to dismiss the screen.</p>	

### Partitioned Library Bulk Unload

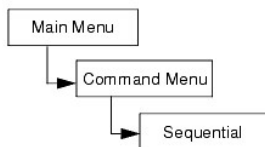
Selection	Description/Result
<p></p> <p><b>Step 1</b> From the <b>Command</b> menu, highlight  and press .</p>	<p>Moves cartridges from rear slots to magazines.</p> <p>Available options are:</p> <ul style="list-style-type: none"> <li>1 Partition 1: will move cartridges from the rear Partition 1 slots to the left magazine slots.</li> <li>1 Partition 2: will move cartridges from the rear Partition 2 slots to the right magazine slots.</li> </ul>
<p></p> <p><b>Step 2</b> Press  and  to select the partition you want to move cartridges from.</p>	
<p></p> <p><b>Step 3</b> Press  to highlight Run .</p>	

and then press 	
<b>Step 4</b> The bulk load operation begins. The operation can be canceled at any time by pressing  .	Bulk Unload for Partition 1 - The library will begin loading the left magazine by selecting the left-most available cartridge in the rear slots of Partition 1, and placing it in the left-most slot in the left magazine. The Bulk Unload will continue until either there are no more tapes in the rear slots, or there are no more available slots in the magazine.
	<b>NOTICE:</b> Rear slots identified as Partition 1 can only be bulk unloaded into Magazine 1, and rear slots identified as Partition 2 can only be bulk unloaded into Magazine 2 while partitioning is enabled.
 Bulk Unload Complete.	
<b>Step 5</b> When the bulk load is complete, a completion screen is displayed. Press  to dismiss the screen.	

## Set Sequential Mode

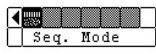





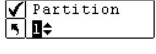


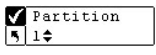



Sequential allows you to start, stop, and resume the sequential backup sequence. You can also set sequential loop mode. If your library is partitioned, you can control each partition independently.

Path:



## Start Loop






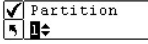


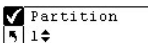


Sequential loop mode allows you to operate in a continuous backup mode. When all tape cartridges have been filled with data, the library will begin again with the first cartridge, overwriting tape cartridges upon reuse.

Selection	Description/Result
 <b>Step 1</b> From the <b>Command</b> menu, highlight  and press  .	Ensure there are no tape cartridges in the drive. Sets options for sequential backup.
 <b>Step 2</b> Highlight  and press  .	Starts looped sequential backup.
 <b>Step 3</b> Press  and  to select the partition you want to set to sequential loop mode.	
 <b>Step 4</b> Press  to highlight Run  and then press  .	Sequential loop backup begins.

## Start Single

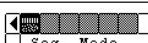





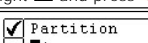


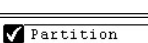


Single mode allows you to begin backup with the first cartridge in a specified partition. When all tape cartridges have been filled, the backup operation will stop.

Selection	Description/Result
 <b>Step 1</b> From the <b>Command</b> menu, highlight	Sets options for sequential backup.

 and press  .	
 <b>Start Single</b>	Starts single sequential backup.
<b>Step 2</b> Highlight  and press  .	
 <input checked="" type="checkbox"/> Partition	
<b>Step 3</b> Press  and  to select the partition you want to set to sequential single mode.	
 <input checked="" type="checkbox"/> Partition 1	A single sequential backup begins.
<b>Step 4</b> Press  to highlight Run <input checked="" type="checkbox"/> and then press  .	

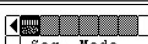





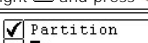


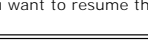


### Stop Sequential Backup

Stop allows you to manually stop the backup process when in sequential mode.

Selection	Description/Result
 <b>Seq. Mode</b>	Sets options for sequential backup.
<b>Step 1</b> From the <b>Command</b> menu, highlight  and press  .	
 <b>Stop</b>	Stops sequential backup.
<b>Step 2</b> Highlight  and press  .	
 <input checked="" type="checkbox"/> Partition	
<b>Step 3</b> Press  and  to select the partition you want to stop the sequential backup on.	
 <input checked="" type="checkbox"/> Partition 1	The backup process is stopped.
<b>Step 4</b> Press  to highlight Run <input checked="" type="checkbox"/> and then press  .	

### Resume Sequential Backup

Resume allows you to continue a backup process when in sequential mode. The load operation will continue with the next tape in the sequence rather than starting over.

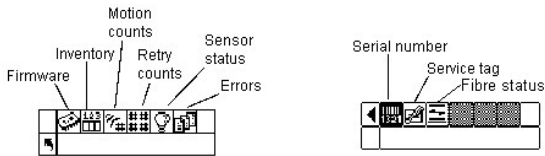
Selection	Description/Result
 <b>Seq. Mode</b>	Sets options for sequential backup.
<b>Step 1</b> From the <b>Command</b> menu, highlight  and press  .	
 <b>Resume</b>	Continues sequential backup.
<b>Step 2</b> Highlight  and press  .	
 <input checked="" type="checkbox"/> Partition	
<b>Step 3</b> Press  and  to select the partition you want to resume the sequential backup on.	
 <input checked="" type="checkbox"/> Partition 1	The backup process is resumed.
<b>Step 4</b> Press  to highlight Run <input checked="" type="checkbox"/> and then press  .	

## Using the Status Menu

The **Status** menu allows you to display operating statistics and system information. From the **Status** menu you can display:

- 1 Firmware Revision Numbers
- 1 Inventory Information
- 1 Motion Counts
- 1 Retry Counts
- 1 Sensor Status
- 1 Error Logs
- 1 Serial Number
- 1 Service Tag
- 1 Fibre Status

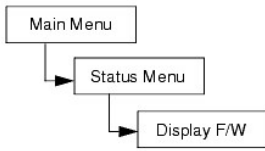
Figure 6. Status Menu



## Display Firmware Version

Display Firmware displays the current level of firmware you are running. This information is important for troubleshooting problems. You can also compare the version numbers with the latest available versions on the Dell website ([www.dell.com](http://www.dell.com)) to determine if a newer version is available.

Path:

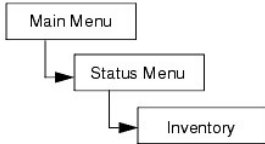


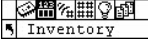


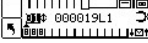





Selection	Description/Result
<p><b>Step 1</b> From the <b>Status</b> menu, highlight  and press .</p>	Displays the current level of library firmware.
<p><b>Step 2</b> Press  and  to view all of the firmware revision numbers.</p>	The current version of library firmware is displayed.  Available options are: <ul style="list-style-type: none"> <li>1 Application: controls the library operations</li> <li>1 Picker: operates the cartridge picker mechanism in your library</li> <li>1 RMU: RMU firmware</li> <li>1 Drive1: Drive firmware</li> <li>1 Drive2: Drive firmware</li> <li>1 Boot: boots the library controller firmware</li> <li>1 Picker Boot: boot code for picker</li> </ul>
<p><b>Step 3</b> To exit, press  to highlight  and then press .</p>	You are returned to the <b>Status</b> menu.

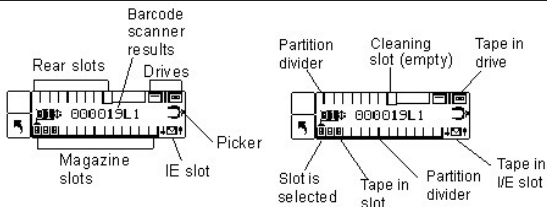
## Displaying Inventory Information

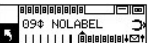



Inventory provides a display of the tape cartridges present in the rear slots and magazines. A physical inventory is also conducted each time you power on your library.

Path:



Selection	Description/Result
 <p><b>Inventory</b></p> <p><b>Step 1</b> From the <b>Status</b> menu, highlight  and press .</p>	<p>Displays the current library cartridge content.</p>
 <p><b>Step 2</b> Press  and  to scroll through the various slots. An arrow in front of the slot indicates it is selected.</p>	<p>The inventory screen provides a visual representation of the storage slots in your library.</p> <p>Magazine slots:</p> <ul style="list-style-type: none"> <li>1 shown on the bottom of the screen</li> <li>1 numbered sequentially from left to right 01 to 14 for LTO or 01 to 12 for SDLT-320</li> <li>1 the magazines slots will not be shown if the magazines are not installed</li> </ul> <p>Rear slots:</p> <ul style="list-style-type: none"> <li>1 shown on the top of the screen</li> <li>1 numbered sequentially from left to right 15 to 23 for LTO or 13 to 20 for SDLT-320</li> <li>1 double bar will be shown in rear slots to show partition</li> <li>1 a horizontal bar will close off slots reserved for cleaning</li> </ul> <p>IE slot:</p> <ul style="list-style-type: none"> <li>1 shown on the bottom right of the screen</li> <li>1   arrows indicate configured as IE slot (represented by IE in slot field)</li> <li>1  vertical bars indicate configured as data slot (represented by 00 in slot field)</li> </ul> <p>Barcode Scanner results:</p> <ul style="list-style-type: none"> <li>1 shown on middle of screen and changes as various slots are selected</li> <li>1 blank: scanner not installed</li> <li>1 Scan Off: scanner installed but turned off</li> <li>1 No Label: no barcode label present or unable to read label</li> <li>1 number: displays barcode label</li> <li>1 number of cleaning operations left on the tape will be shown instead of a barcode for full cleaning slots</li> </ul> <p>Drives:</p> <ul style="list-style-type: none"> <li>1 shown on top right of the screen</li> </ul>

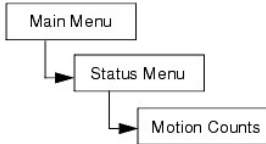





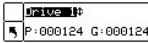


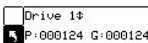



Selection	Description/Result
 <p><b>Step 3</b> To exit, press  to highlight  and then press .</p>	<p>You are returned to the <b>Status</b> menu.</p>

## Display Motion Counts

Motion Counts displays how many times a slot or drive has had a cartridge placed in it or removed from it.

Path:

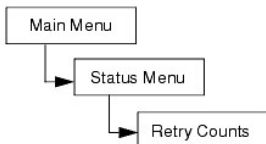


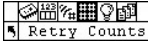


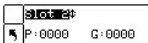


Selection	Description/Result
 <p><b>Step 1</b> From the <b>Status</b> menu, highlight  and press .</p>	Displays slot usage information.
 <p><b>Step 2</b> Press  and  to view the motion counts for each slot.</p>	Available options are: <ul style="list-style-type: none"> <li>1 System Moves: displays the total number of library moves. A move is described as a "get" from one location and a "put" to another location.</li> <li>1 Drive 1: displays the number of Gets and Puts to and from Drive 1.</li> <li>1 Drive 2: displays the number of Gets and Puts to and from Drive 2.</li> <li>1 IE and Slots 1 - 23 for LTO or 1- 20 for SDLT: displays the total number of moves for a particular slot.</li> </ul> The format of the entries is: <ul style="list-style-type: none"> <li>1 P: = Number of "puts" to a location.</li> <li>1 G: = Number of "gets" from a location.</li> </ul>
 <p><b>Step 3</b> To exit, press  to highlight  and then press .</p>	You are returned to the <b>Status</b> menu.

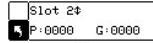



## Display Retry Counts

Retry Counts displays the number of retry operations the picker has attempted to put a cartridge to a specific location or get a cartridge from a particular location.

Path:



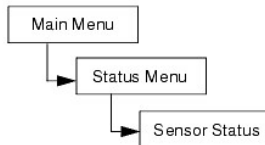
Selection	Description/Result
 <p><b>Step 1</b> From the <b>Status</b> menu, highlight  and press .</p>	Displays the number of retry operations.
 <p><b>Step 2</b> Press  and  to view all of the retry counts.</p>	Available options are: <ul style="list-style-type: none"> <li>1 System: displays the total number of library retries.</li> <li>1 D1: displays how many times a get or a put retry has occurred for Drive 1.</li> <li>1 D2: displays how many times a get or a put retry has occurred for Drive 2.</li> <li>1 Position: displays how many times the picker has retried positioning.</li> <li>1 Scan: displays how many times the barcode scanner has retried scanning a bad label.</li> <li>1 IE and Slots 1- 23 for LTO or 1 - 20 for SDLT-320: displays how many times a get or a put retry has occurred for a particular slot.</li> </ul>

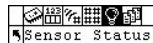





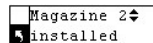



	The format of the entries is: <ul style="list-style-type: none"> <li>1 P: = Number of "puts" to a location.</li> <li>1 G: = Number of "gets" from a location.</li> </ul>
 <p><b>Step 3</b> To exit, press  to highlight  and then press .</p>	You are returned to the <b>Status</b> menu.

## Display Sensor Status

Sensor Status displays the results of the real-time sensors on your library.

Path:

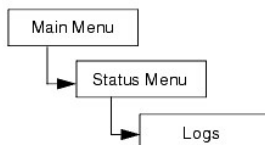





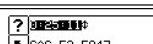


Selection	Description/Result
 <p><b>Step 1</b> From the <b>Status</b> menu, highlight  and press .</p>	Displays results of real-time sensors.
 <p><b>Step 2</b> Press  and  to view each sensor status.</p>	Available options are: <ul style="list-style-type: none"> <li>1 Door (Media Access): opened or closed</li> <li>1 Picker: empty or full</li> <li>1 IE Slot: empty or full</li> <li>1 Magazine 1: installed or removed</li> <li>1 Magazine 2: installed or removed</li> <li>1 Rear Slots: represented by a nine character string with "1"s and "-"s (-1-1-1-1-) where 1 means slot full, and - means slot empty.</li> </ul>
 <p><b>Step 3</b> To exit, press  to highlight  and then press .</p>	You are returned to the <b>Status</b> menu.

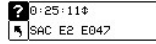



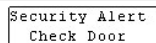

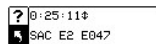



## Displaying the Error Log

The Error Log provides a listing of errors that need to be addressed by the operator. The log can store up to 100 errors and is preserved through power cycles. The log is accessible via the LCD as well as the SCSI interface, the serial port, and the RMU interface. You may be asked to supply log information to Dell Technical Support for troubleshooting purposes if other problem resolution strategies do not work.

Path:



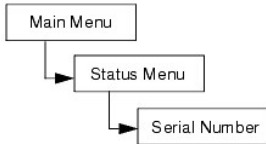
Selection	Description/Result
 <p><b>Step 1</b> From the <b>Status</b> menu, highlight  and press .</p>	Displays Error log.
 <p><b>Step 2</b> Press  and  to scroll through the error messages.</p>	The format of the entries is as follows: 0:00:00 = hours:minutes:seconds of power on time since the error occurred . SAC E2 E047 = Service Action Code of error message. For more information on error codes, see <a href="#">Error Messages</a> .







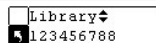



 <p><b>Step 3</b> If you would like to get more information, press  to highlight  and then press .</p>	The text version of the Error message is displayed.
 <p><b>Step 4</b> Press  to dismiss the message and return to the Error log.</p>	
 <p><b>Step 5</b> To exit the Error log, press  to highlight  and then press .</p>	You are returned to the <b>Status</b> menu.

### Display Serial Number

Serial Number displays the serial numbers of the library and the RMU. You may need this information when contacting Technical Support.

Path:

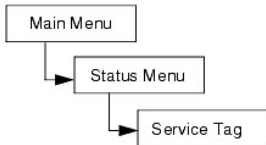






Selection	Description/Result
 <p><b>Step 1</b> From the <b>Status</b> menu, highlight  and press .</p>	Displays serial numbers.
 <p><b>Step 2</b> Press  and  to view all of the serial numbers.</p>	Available options are: <ul style="list-style-type: none"> <li>1 Library</li> <li>1 Drive 1</li> <li>1 Drive 2</li> <li>1 RMU</li> <li>1 SNC</li> </ul>
 <p><b>Step 3</b> To exit, press  to highlight  and then press .</p>	You are returned to the <b>Status</b> menu.

### Display Service Tag

Service Tag displays the service tag of your library. You will need this number when contacting Technical Support.

Path:



Selection	Description/Result
 <p><b>Step 1</b> From the <b>Status</b> menu, highlight  and press .</p>	Displays service tag.
	You are returned to the <b>Status</b> menu.

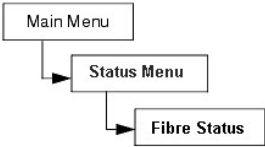





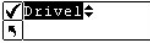


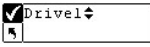



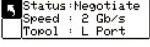

**Step 2** The service tag is displayed. Press  to dismiss the screen.

## Display Fibre Status

Fibre Status displays the status, speed, and topology for fibre drives. You may need this information when contacting Technical Support.

Path:



Selection	Description/Result
 <p><b>Step 1</b> From the <b>Status</b> menu, highlight  and press .</p>	Displays the status of fibre drives.
 <p><b>Step 2</b> Press  and  to view library components.</p>	Available options are: <ul style="list-style-type: none"> <li>1 Drive 1 (if fibre)</li> <li>1 Drive 2 (if fibre)</li> <li>1 SNC</li> </ul>
 <p><b>Step 3</b> Press  to highlight Run  and then press .</p>	
 <p><b>Step 4</b> A completion screen displays. Press  to dismiss.</p>	<p>The current Fibre Status information is provided.</p> <p><b>Status</b> line includes one of the following:</p> <ul style="list-style-type: none"> <li>1 No Light</li> <li>1 Negotiate: negotiating link</li> <li>1 Connected</li> <li>1 Not Supp.: a fibre drive that does not support the status check feature or a SCSI drive</li> <li>1 Unavailable: a fibre drive that supports the status check feature but is not responding</li> </ul> <p><b>Speed</b> line includes one of the following:</p> <ul style="list-style-type: none"> <li>1 Auto</li> <li>1 x Gb/s: the current fibre channel speed</li> <li>1 N.A.: Not Supported or Unavailable</li> </ul> <p><b>Topology</b> line includes one of the following:</p> <ul style="list-style-type: none"> <li>1 Auto L: Auto-Configure, trying L-Port first</li> <li>1 Auto N: Auto-Configure, trying N-Port first</li> <li>1 N Port: Point-to-Point</li> <li>1 L Port: Loop</li> </ul>

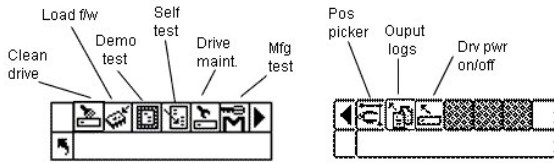
## Using the Tools Menu

The **Tools** menu provides access to library utilities. From the **Tools** menu you can:

- 1 Manually clean a drive
- 1 Load drive firmware
- 1 Run Demo tests
- 1 Run Self tests
- 1 Run Drive Maintenance tests
- 1 Output logs
- 1 Run Manufacturing tests
- 1 Position the picker

- 1 Power the drive on or off

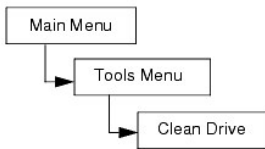
Figure 7. Tools menu

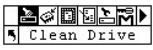


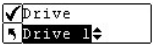


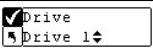







## Cleaning a Drive

Clean Drive allows you to manually clean your drive components. To use this feature, you may either have a cleaning cartridge already in a slot that has been configured as a cleaning slot, or you can wait until you are prompted to insert a cleaning cartridge into the I/E slot. For more information on configuring cleaning slots, see [Configure Cleaning Slots](#).

Path:

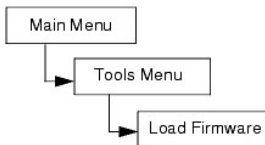


Selection	Description/Result
 <b>Step 1</b> From the <b>Tools</b> menu, highlight  and press  .	Manually cleans a drive.
 <b>Step 2</b> Press  and  to select the drive to be cleaned.	If you have two drives installed, you can clean Drive 1 or Drive 2.
 <b>Step 3</b> Press  to highlight Run  and then press  .	<p>If you have a cleaning slot configured, the library uses the cartridge in that slot to clean the drive, and returns the cartridge to the cleaning slot.</p> <p>If you do not have a cleaning cartridge in a previously configured cleaning slot, you are prompted to insert a cleaning cartridge into the I/E slot. After the drive is cleaned, the cleaning tape is returned to the I/E slot.</p> <p> <b>NOTE:</b> If you put the cleaning cartridge into the I/E slot before you start the drive cleaning process, you are prompted to remove the cartridge and start the drive cleaning process over again.</p>
<b>Step 4</b> A completion screen displays. Press  to dismiss.	




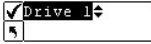


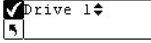




## Load Firmware

Load Firmware allows you to manually update your firmware using a firmware update tape cartridge.

Path:



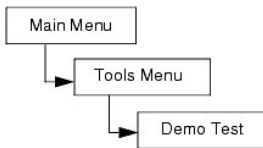
Selection	Description/Result
<b>Step 1</b> Open the IE door and insert the firmware update tape into the IE slot.	




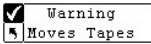


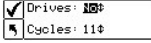



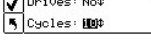


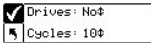



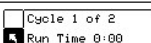


 <p><b>Step 2</b> From the <b>Tools</b> menu, highlight  and press .</p>	Loads Firmware.
 <p><b>Step 3</b> Press  and  to select which firmware you want to update.</p>	Available options are: <ul style="list-style-type: none"> <li>1 Drive 1: updates firmware for Drive 1</li> <li>1 Drive 2: updates firmware for Drive 2</li> <li>1 All Drives: upgrades both drives with a single command</li> </ul>
 <p><b>Step 4</b> Press  to highlight Run  and then press .</p>	The new firmware is loaded and the update tape is returned to the IE slot.
<p><b>Step 5</b> A confirmation message is displayed. Press  to dismiss.</p>	
<p><b>Step 6</b> Remove the update tape from the IE slot.</p>	

## Run the Demo Test

Demo Test randomly moves tapes within the library to demonstrate robotic motion. If your library has one drive, there must be two pieces of media in it for Demo Test to complete successfully. If your library has two drives, there must be at least three pieces of media in it for Demo Test to complete successfully.

Path:



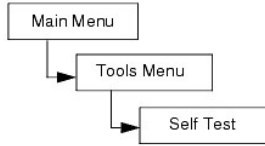
Selection	Description/Result
 <p><b>Step 1</b> From the <b>Tools</b> menu, highlight  and press .</p>	Runs Demo test.
 <p><b>Step 2</b> You will be prompted with a warning, press  to continue the test.</p>	 <b>NOTICE:</b> This test will move your tapes and may change your inventory information by not placing tapes in the same locations.
 <p><b>Step 3</b> Press  and  to select/deselect the Drives.</p>	Available options are: <ul style="list-style-type: none"> <li>1 yes: allows loads and unloads to the drives</li> <li>1 no: does not load or unload tapes to the drives</li> </ul>
<p><b>Step 4</b> Press  to move to the next option.</p>	
 <p><b>Step 5</b> Press  and  to select the number of Cycles to include in the demo test.</p>	You can select between 1 and 100 cycles.
 <p><b>Step 6</b> Press  to highlight Run  and then press .</p>	The Demo test begins.
 <p><b>Step 7</b> A status screen will display the progress of the test. You can press  at any time to cancel the test.</p>	
<p><b>Step 8</b> When the test is complete, a completion message is displayed. Press .</p>	







to dismiss.

## Run the Self Test

Self Test tests sensor input and robotic motion to make sure the system is operational.


Path:




Selection	Description/Result
 <b>Step 1</b> From the <b>Tools</b> menu, highlight  and press  .	Runs self test.
 <b>Step 2</b> A status screen will display the progress of the test. You can press  at any time to cancel the test.	The self test begins.
<b>Step 3</b> When the test is complete, a completion message is displayed. Press  to dismiss.	If the Self Test fails, there is probably something obstructing motion of the picker. Open the door and pull out the magazines to verify that all the tapes are pushed into their slots. Look for anything that appears to be blocking the path of the picker. Retry the Self test. If it still fails, contact Technical Support.

## Drive Maintenance Test

Drive Maintenance allows you to perform several different drive diagnostic tests.

 **NOTE:** The Drive Maintenance tests are only supported for libraries with LTO drives. WORM media cannot be used when running diagnostics.

To better understand these tests, you need to understand the format of the tape. The tape is divided into 4 data sections. Each data section contains 96 tracks (96\*4=384 tracks, the number of tracks on a Generation 1 cartridge). On each edge of the tape (2 servo bands), and between the databands (3 servo bands), there are pre-formatted servo bands (5 in total). A wrap is defined as a trip from logical BOT to logical EOT (a round trip would be 2 wraps).

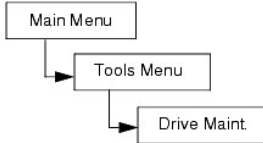
 **NOTE:** Run time records the test time in minutes and seconds (m:ss).

The drive maintenance options are described in more detail below.

Test	Description
Power on self test (POST)	Runs self diagnostics. This test takes approximately 1 minute.
Fast Read/Write	The drive reads and writes 2 wraps worth of data (a trip down and back) in each of the 4 data sections. 10 data patterns are used in this test. No more than 1.5 % of the tape is used. This test takes approximately 3 minutes.
Normal Read/Write	The drive reads and writes 96 wraps worth of data (all the tracks) in each of the 4 data sections. No more than 1.5 % of the tape is used. 10 data patterns are used in this test. This test takes approximately 22 minutes.
Media Read/Write	Since media damage usually comes from the edges of tape to the center of tape, the media test performs a read/write test by writing 2 wraps on each of the two outside data bands, closest to the edge of tape, on both edges of the tape, for the entire length of tape. This test takes approximately 20 minutes.
Head Read/Write	In this test, the drive performs a resistance check on the recording head, then it does a read/write test where it writes 2 wraps in each of the two center data bands of tape to verify the head is performing well. This test takes approximately 20 minutes.
Wrap	This test is used to ensure that the drive is communicating correctly with the host and the library.
Create FUP	The drive loads firmware onto a data cartridge to create a firmware upgrade (FUP) tape.
Clear FUP	The drive erases the firmware from the firmware upgrade (FUP)

	cartridge so it can be used as a data cartridge.
Drive Logs	Downloads all drive logs to a host machine for submittal to support personnel. Drive dumps can be output from LTO drives only.
Presv Dump	The preserve drive dump command stores the current drive dump information in the drive's NVRAM for extraction by a service technician.

Path:

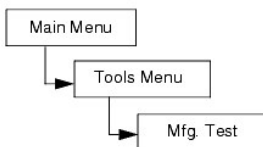


Selection	Description/Result
<p><b>Step 1</b> From the <b>Tools</b> menu, highlight  and press .</p>	Runs Drive Maintenance tests. <b>NOTICE:</b> During drive maintenance tests, tapes are automatically moved between IE and tape slots. Be sure to remove media from the IE until prompted to insert scratch media.
<p><b>Step 2</b> A warning message displays. Press  to continue with the test.</p>	<b>NOTICE:</b> For all Read/Write tests, the contents of the tape will be destroyed when running the test.
<p><b>Step 3</b> Press  and  to select the drive you wish to run the test on.</p>	
<p><b>Step 4</b> Press  to move to the next option.</p>	
<p><b>Step 5</b> Press  and  to select the test you wish to run.</p>	Available options are:   POST   Fast R/W   Normal R/W   Media R/W   Head R/W   Wrap   Create FUP   Clear FUP   Drive Logs   Presv Dump
<p><b>Step 6</b> Press  to highlight Run  and then press . You can press  at any time to cancel the test.</p>	The test begins.


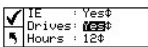
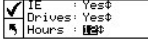
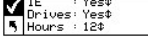
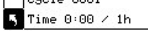
## Manufacturing Test

Manufacturing Test operates the robotics by moving tape cartridges from slot to slot. This test is used to verify that the library is functioning correctly.

Path:



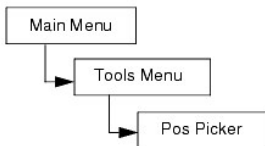
Selection	Description/Result
<p><b>Step 1</b> From the <b>Tools</b> menu, highlight  and press .</p>	Runs Manufacturing test.
<p><b>Step 2</b> You will be prompted with a warning, press  to continue the test.</p>	<b>NOTICE:</b> This test will move your tapes and may change your inventory information by not placing tapes in the same locations.


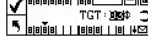
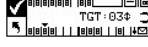
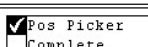
 <p><b>Step 3</b> Press ▲ and ▼ to select/deselect the IE slot.</p>	<p>Available options are:</p> <ul style="list-style-type: none"> <li>1 yes: includes the IE slot in the tape swap cycle</li> <li>1 no: does not load or unload a tape to the IE slot</li> </ul>
<p><b>Step 4</b> Press ► to move to the next option.</p>	
 <p><b>Step 5</b> Press ▲ and ▼ to select/deselect the Drives slot.</p>	<p>Available options are:</p> <ul style="list-style-type: none"> <li>1 yes: allows loads and unloads to the drives</li> <li>1 no: does not load or unload tapes to the drives</li> </ul>
<p><b>Step 6</b> Press ► to move to the next option.</p>	
 <p><b>Step 7</b> Press ▲ and ▼ to select the number of Hours to run the manufacturing test.</p>	<p>You can choose between 0 and 72 hours.</p>
 <p><b>Step 8</b> Press ► to highlight Run (✓) and then press ●.</p>	<p>The Manufacturing test begins.</p>
 <p><b>Step 9</b> A status screen will display the progress of the test. You can press ● at any time to cancel the test.</p>	
<p><b>Step 10</b> When the test is complete, a completion message is displayed. Press ● to dismiss.</p>	


## Position Picker

Position Picker allows you to move the picker inside the library to a specified location. If you need to remove a tape manually from the picker, you can position the picker to point to a slot in a magazine near the front door. If you need to remove a tape manually from the rear slots or drives, you can move the picker away from the slot you need to access.

Path:



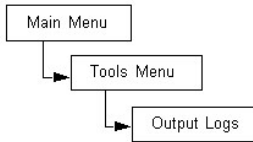
Selection	Description/Result
 <p><b>Step 1</b> From the Tools menu, highlight Pos Picker and press ●.</p>	
 <p><b>Step 2</b> Press ▲ and ▼ to select the target slot to move the picker to.</p>	<p>TGT = Target slot to position the picker in front of.</p>
 <p><b>Step 3</b> Press ◀ to highlight Run (✓) and then press ●.</p>	<p>The picker moves to the specified position.</p>
 <p><b>Step 4</b> When the picker is positioned, a</p>	




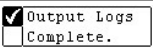

completion message is displayed. Press  to dismiss.

## Exporting Log Files

Output Logs exports the log files to the serial port. If you are having problems with your library, you may be asked to output the logs and send them to Technical Support to analyze.

Path:

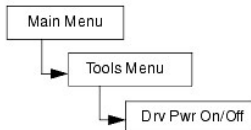








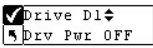



Selection	Description/Result
 <p><b>Step 1</b> From the <b>Tools</b> menu, highlight  and press .</p>	Outputs logs to the serial port.
 <p><b>Step 2</b> When the output is complete, a completion message is displayed. Press  to dismiss.</p>	

## Drive Power On/Off

Drive Power On/Off either prepares a drive to be removed or reactivates a drive once it is installed. If you are removing a drive, the drive will be taken offline and will not be available for use.

Path:



Selection	Description/Result
 <p><b>Step 1</b> From the <b>Tools</b> menu, highlight  and press .</p>	Prepares a drive to be removed/replaced.
 <p><b>Step 2</b> Press  and  to select the drive you wish to remove/replace.</p>	
 <p><b>Step 3</b> Press  to highlight. Run  and then press .</p>	The drive is ready to be removed/the new drive can be used.

# Operation: Dell™ PowerVault™ 132T Tape Library User's Guide

- [Operator Panel Keypad](#)
- [Icon Definitions](#)
- [Inserting and Removing Media](#)
- [Removing Tapes](#)
- [Barcode Labels](#)
- [Menu Navigation](#)
- [Normal Operations](#)

## Operator Panel Keypad

The library includes an easy-to-read bitmap LCD and a five-button keypad, called the Operator Panel, which allows you to interactively control library operations. Using the Operator Panel, you can set library options, check operating statistics, and diagnose errors. The buttons on the keypad are described in more in [Table 1](#).



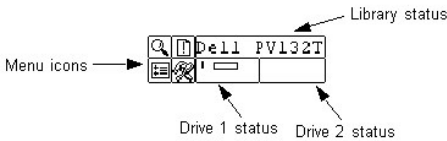
Table 1. Operator Panel keypad

Selection	Button	Description
	Left Arrow	Navigate Menu Left
	Right Arrow	Navigate Menu Right
	Up Arrow	Scroll Value Up
	Down Arrow	Scroll Value Down
	Action button	Run Menu Option

## Icon Definitions

The LCD on the library uses icons to provide graphical representations of menu items. From the **Main** menu ([Figure 1](#)), you can view menu icons as well as drive and tape status icons.

Figure 1. Main menu icons



## Menu Icons

A list of the menu icons and their descriptions is provided in [Table 2](#).

Table 2. Menu icons and descriptions

Status Menu Icons	
Icon	Description
	STATUS Menu
	Display Firmware Version
	Display Inventory
	Display Motion Counts
	Display Retry Counts
	Display Sensor Status
	Errors
	Serial Number
	Service Tag
	Fibre Status

Setup Menu Icons	
Icon	Description
	SETUP Menu
	Setup Wizard
	Configure Slots
	SCSI/Fibre
	Drive SCSI ID
	Set Inquiry
	Access Mode
	Fibre Setup
	Lib SCSI ID
	Configure User Interface



Command Menu Icons	
Icon	Description
	COMMAND Menu
	Import Media
	Import Data Media
	Import Cleaning Media
	Export Media
	Export Data Media
	Export Cleaning Media
	Dismount Drive
	Move Media
	Bulk Load Media
	Bulk Unload Media
	Sequential Mode
	Start Loop
	Start Single
	Stop
	Resume

	Timeout
	Password
	Key Clicks
	Configure RMU
	Configure AutoClean
	Configure Scanner
	Default Library

Tools Menu Icons	
Icon	Description
	TOOLS Menu
	Clean Drive
	Load Firmware
	Demo Test
	Self Test
	Drive Maintenance
	Manufacturing Test
	Position Picker
	Output Logs
	Drive Power On/Off

## Drive Status Icons

Figure 3 shows the icons that are displayed on the LCD indicating drive status. The icons are described in Table 3.

Figure 3. Drive status icons

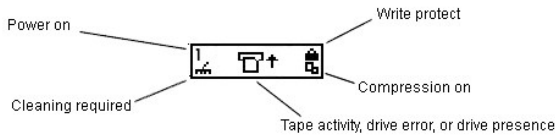


Table 3. Drive status icons and descriptions

Icon	Description
1 or 2	A tape drive is present in drive slot 1 or 2.
	Drive cleaning is required.
	Tape activity. See <a href="#">Tape Activity Icons</a> .
	Drive error message. The character after the ! represents the error indicator on the drive LCD. See the drive manufacturer documentation for an explanation of the error. (This icon is not shown in Figure 3).
	The tape drive is compressing data on tape.
	The tape is write protected.

## Tape Activity Icons

Table 4 shows the icons that are displayed on the LCD indicating tape activity.

Table 4. Tape activity icons and descriptions

Icon	Description
	A tape drive is loading a cartridge.
	A tape drive has a cartridge loaded.
	A tape drive is rewinding a cartridge.
	A tape drive is unloading a cartridge.
	A tape drive has unloaded a cartridge.
	A tape drive is reading data from a cartridge.
	A tape drive is writing data to a cartridge.
	A tape drive is erasing data from a cartridge.
	A tape drive is locating data on a cartridge.

## Online and Offline Modes

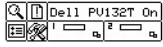
Your library can operate in an online or offline mode. Typically, the library is in the online mode. When you access the **Command**, **Setup**, or **Tools** menus from

the Operator Panel, a message notifies you that the library will go into offline mode. You must verify that you want the library to operate in offline mode before proceeding. When the library is offline, the host has limited access to the library. The host can retrieve information from the library but cannot run any commands that change the state of the library, such as writing data or moving media. Entering the **Main** menu automatically returns the library to the online mode. The Operator Panel indicates which mode you are in. [Figure 4](#) shows the offline mode, [Figure 5](#) shows the online mode.

Figure 4. Offline mode



Figure 5. Online mode



---

## Inserting and Removing Media

Your library has been designed to make media insertion a simple and accurate process. There are two ways to insert and remove media from the library.

1. Load the magazines with tapes and use the Bulk Load feature in the **Command** menu. For more information, see [Bulk Load](#). To remove media, unload the tapes from the rear slots to the magazines by using the Bulk Unload feature in the **Command** menu. For more information, see [Bulk Unload](#).
1. Use the Import/Export features in the **Command** menu to load tapes from the IE slot. For more information, see [Import Media](#) and [Export Media](#).

⚠ **NOTICE:** It is not recommended that you manually insert/remove media to/from the rear slots directly. If you choose to insert/remove media directly to/from the rear slots and the picker is blocking the slots, use the [Position Picker](#) tool to move the picker. Do not move the picker manually or you may damage it.

📄 **NOTE:** Media barcode labels can be viewed through the magazine window.

The magazines and rear storage slots are designed to prevent the cartridges from being inserted incorrectly. The magazines and rear storage slots also include cartridge locks that prevent media from falling out of the slots when the magazines are inverted or the library is transported. To remove the tapes from the rear slots and the magazine, lift up on the green lever to release the locking mechanism.

The rear storage slots contain sensors that detect the presence of cartridges and automatically update library inventory when cartridges are inserted or removed. Sensors also detect the presence/absence of the magazines and the inventory is updated when the magazines are inserted or removed.

📄 **NOTE:** If you remove and then reinsert the magazines very rapidly, the sensors may not be able to detect the presence of the magazines. Ensure that you fully insert the magazines and do not remove and reinsert them very rapidly.









⚠ **NOTICE:** Do not directly insert media into the picker. If media is inserted into the picker incorrectly, it may damage the picker.

---

## Removing Tapes

There are four instances that may require manual removal of a tape cartridge from the interior of your library. You can remove a tape manually from a drive, the rear slots, the front magazines, and the picker. You can position the picker to move it out of your way to be able to reach the back interior of your library. You can also position the picker when you want to remove a tape from the picker by following the procedure below.

### Positioning the Picker

1. From the **Tools** menu, highlight  and press .  

2. Press  and  to select the target slot to move the picker to.
3. Press  to highlight Run  and then press .

### Removing a Tape From a Drive

1. Position the picker to the left, which is away from the drive, using the Operator Panel. Refer to [Positioning the Picker](#).
2. Open the front door and remove the two magazines.
3. Press the eject button on the drive and remove the tape.
4. If the tape cannot be removed, contact [Dell Support](#).


### Removing a Tape From a Back Slot

1. Position the picker to the far right. Refer to [Positioning the Picker](#).
2. Power off the library.
3. Open the front door and remove the two magazines.
4. Reach into the back of the library and press up on the green lever to release a tape from the back slot.
5. Gently pull the tape out toward you.

### Removing a Tape From the Picker

1. Position the picker to be accessible to you. Refer to [Positioning the Picker](#).
2. Power off the library.

3. Open the front door and remove the two magazines.
4. If the tape cartridge is toward you, grasp it and remove it gently. However, if the tape cartridge is away from you, gently push it into a rear slot with a long narrow object like a ruler.

 **NOTE:** If a cartridge is partially in the drive and partially in the picker, contact Technical Support for removal instructions

---

## Barcode Labels

For cartridges to be scanned, they must have an external label that is machine readable to identify the volume serial number. A barcode must use only uppercase letters A to Z and/or numeric values 0 to 9. The library currently supports Code 39 type barcode labels.

Three different types of barcode label modes are supported in the PowerVault 132T library:

- Default: The scanner will expect to read and will report to the host six characters. Optional one or two character media identifiers can be present but will not be reported by a host.
- Media ID: The scanner will expect to read and will report to the host seven or eight characters (six plus the media identifier) by a host.
- Extended: The scanner will read and report to the host between five and sixteen characters.

The barcode scanner will read and report all of the information that it scans and will display this information on the Operator Panel. The library will report the barcode information to the host according to the mode it is configured for and will display alert messages on the Operator Panel LCD if the scanned barcode does not match the barcode length and media identifier requirements of the mode.

For customers who wish to print the barcode labels, the individual media labels are supported if the labels meet the requirements below:

- 1 Number of digits: 6-16 (based on mode)
- 1 Background reflection: at least 25 percent
- 1 Print contrast: at least 75 percent
- 1 Ratio: at least 2.2
- 1 Module: 250  $\mu$ m
- 1 Print tolerance:  $\pm$  57  $\mu$ m
- 1 Length of the rest zones: 5.25 mm  $\pm$  0.25 mm.
- 1 No black marks can be present in the intermediate spaces or rest zones.
- 1 No white areas may be present on the bars.
- 1 Bars should read in a uniform direction. Non-uniform reading directions are feasible in principle, but have a detrimental effect on performance.
- 1 Quality Testing

Compliance with these specifications can be checked and documented with the Ergilaser 3000 High Density barcode measuring device that is manufactured by the Laetus Company.

## Applying the Label

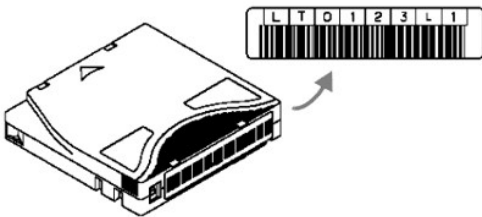
All barcode scanning labels should be applied to the front of the cartridge in the upper right corner of the tape cartridge recess (when oriented vertically). Make sure that the media identifier on the label matches the media type. The media identifier is the last two extra characters on the right side of the label. The label shown in [Figure 6](#) is an example of an L1 media identifier for an LTO-1 media type. When using LTO-2 media the media identifier extension would be L2. For LTO-3 media the media identifier extension would be L3. The library uses the media identifier on the label to determine if the media is compatible with the tape drive. A drive mount will be prevented by the library if the media type, as determined by the media identifier, is incompatible with the target tape drive. An example LTO-2 media improperly labeled with an L3 media identifier extension could not be loaded into the LTO-2 drive.

Depending on the media type, barcode labels are either stickers that are adhered to the front of the tape cartridge or cutouts that you slide into an indentation on the front of the cartridge. To aid in readability, apply the labels so that the numbers are at the top of the label.

1. Peel off the label and place it on the cartridge.
2. Verify that the label is oriented so that the numbers appear right-side up and above the barcode.

[Figure 6](#) shows the label application on a piece of LTO-1 media.

**Figure 6. Barcode label**



---

## Menu Navigation

To navigate between menus and within a particular menu item, tabbing and scrolling are used. Tabbing and scrolling are described in more detail below.

### Main Menu Navigation

You can tab between the four icons in the **Main** menu by pressing the left and right arrow keys (◀ and ▶). Once you have highlighted the menu item you are interested in, press the Action key (⏏) to select it.

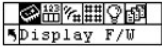
Use left and right arrow keys to move between these 4 icons



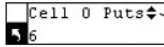
## Submenu Navigation

There are two levels of submenu navigation. The first level allows you to move between the various submenu items. This type of tabbing works the same as the **Main** menu tabbing, using the left and right arrow keys (◀ and ▶) to move between items, and using the Action key (⏏) to select items.

Use left and right arrow keys to move between these icons



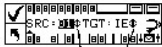
Once you have selected an item in a submenu, there may be several options for that item. This is the second level of submenu navigation called scrolling. When scrolling within a submenu item is available, a set of arrows will be present on the right side of the LCD as shown below.



Scroll arrows

The presence of these arrows indicates that there are more items available to view or change. You use the up and down arrow keys on the keypad (▲ and ▼) to scroll up and down through the list or to change the value.

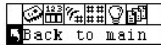
On some screens, there is more than one item to view or change. Each of the items will have its own set of scrolling arrows. Highlight the field, and then use the up and down arrow keys on the keypad (▲ and ▼) to scroll up and down through the list or to change the value. Use the left and right arrow keys (◀ and ▶) to move (tab) between items.



Scroll arrows

If you want to exit a submenu and go up a menu level, you use the back to previous icon, indicated by ◀ on the bottom left of the LCD. You need to press the left arrow key to select ◀, and then press Action (⏏).

Move up a menu level



## Normal Operations

Once your library and your choice of application software are installed and configured, you can automatically perform backup and restore operations through the application software. You do not need to intervene unless you need to replace cartridges.

Always follow these general operating guidelines:

- 1 Use only the recommended types of media cartridges.
- 1 Clean the drive whenever the 🧹 icon appears on the LCD (signifying a cleaning request).

---

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## **Dell™ PowerVault™ 132T Tape Library, PowerVault 132T SNC, and PowerVault SNC Manager User's Guides**

[View the Dell PowerVault 132T Library User's Guide](#)

[View the Dell PowerVault 132T SNC User's Guide](#)

[View the Dell PowerVault SNC Manager User's Guide](#)

[Install the Dell PowerVault SNC Manager Software](#)

[Back to Contents Page](#)

## Remote Management Unit: Dell™ PowerVault™ 132T Tape Library User's Guide

- [Supported Browsers](#)
- [RMU Requirements](#)
- [Setting up the RMU](#)
- [Starting the RMU](#)
- [Logging Into the RMU](#)
- [Checking Status and General Information](#)
- [Configuring Network Parameters](#)
- [Configuring SNMP](#)
- [Configuring RMU User Accounts](#)
- [Configuring the Time and Date](#)
- [Updating Firmware](#)
- [Viewing Diagnostic Files](#)
- [Rebooting the RMU](#)
- [Rebooting the Library](#)
- [Using the Operator Panel \(via the RMU\)](#)
- [Getting Help](#)

The Remote Management Unit (RMU) resides in each system and is pre-installed at the factory. The RMU allows remote access via a Web browser to the library. Microsoft® Internet Explorer version 5.0 and above, as well as Netscape Navigator versions 4.01 for UNIX® only, and 4.7X for all environments are supported by the RMU. All available functions, as described below, are accomplished without the need of a dedicated server (or separate software).

The RMU performs the following functions:

- 1 Provides remote operation of all library Operator Panel functions via a Web browser.
- 1 Allows you to check the status of the system, firmware levels, and other useful information.
- 1 Updates RMU and Library Controller firmware for all drive types.
- 1 Updates drive firmware for libraries with LTO drives.
- 1 Supports Simple Network Management Protocol (SNMP) and acts as an SNMP-server, generating SNMP traps and responding to SNMP requests.
- 1 Supports Library Management Information Base (MIB) version 2.0.
- 1 Detects a power loss and generates an SNMP trap for notification.
- 1 Enables the retrieval of library, drive, and RMU diagnostic files.
- 1 Allows RMU configuration changes such as network, users, and date/time changes.
- 1 Stores vital product data (VPD) for libraries with LTO drives.

Figure 1. PowerVault 132T Remote Management Unit



### Supported Browsers

The RMU supports the following browsers:

- 1 Microsoft Internet Explorer version 4.0 and above
- 1 Netscape Navigator versions 4.01, 4.5, 4.7X and above

### RMU Requirements

The RMU requires a network address that consists of an Internet Protocol (IP) address, subnet mask, and gateway IP Address.

Once these are established, input this information to the RMU via the Operator Panel. For more information, see the discussion that follows.

### Setting up the RMU

Once you have established a network address for the RMU, input this information to the RMU via the Operator Panel.

1. From the **Setup** menu, highlight  and press .
  2. Set the IP address, subnet mask, and gateway address by pressing  and  to change the value of the current field and  and  to move to the next field.
  3. When complete, highlight Run () and press .
- 

## Starting the RMU

Before you begin using the RMU, make certain you have configured your RMU with the correct network address.

1. Open a Web browser.
2. Point your browser to the RMU IP address, excluding any zeros.


For example if your IP address is 182.073.056.052 on the Operator Panel, go to the following address: <http://182.73.56.52>

The RMU user interface is now displayed.

---

## Logging Into the RMU

Some of the features of the RMU require you to log in.

 **NOTE:** The default login and password are *admin* and *password*, respectively. The login name and password are case sensitive.

- 1 When prompted, enter your login name and password.
- 

## Checking Status and General Information

You can use the RMU to remotely check the status of a library and obtain general information about the library. For example, you can check drive status or view the firmware level of your library. The library automatically backs up vital product data every time you move from an offline to an online state in order to preserve configuration information.

1. Click the **Status** tab.

The following information is displayed:

- 1 **Library Status** - indicates whether the library is online or offline.
  - 1 **Drive Status** - type and quantity of tape drives in the library.
  - 1 **RMU User** - name and location of the user.
  - 1 **Hostname** - hostname used for the RMU connection.
  - 1 **IP Address** - IP address for the RMU connection.
  - 1 **MAC Address** - Media Access Control (MAC) address of the RMU. This is also the serial number of the RMU.
  - 1 **Library Serial #** - library serial number.
  - 1 **SNMP** - indicates whether the SNMP feature is on or off.
  - 1 **SNMP Alerts** - indicates whether the SNMP Alert notification feature is on or off.
  - 1 **Library Firmware** - current level of library firmware.
  - 1 **RMU Firmware** - current level of RMU firmware.
- 

## Configuring Network Parameters

You can reconfigure the hostname, IP address, subnet mask, and gateway address through the RMU. This feature requires you to login to the RMU. See [Logging into the RMU](#) for more information.

1. Log into the RMU.
2. Click the **Configuration** tab.
3. In the **Network Configuration** area, enter the new hostname, IP address, subnet mask, and gateway address.
4. Click **Submit** and review your changes (indicated in red).
5. Enter your password and click **Confirm** to complete the procedure.

The new values are saved. Note that you may need to redirect your Web browser.

---

## Configuring SNMP

Simple Network Management Protocol (SNMP) is a set of protocols used to manage nodes on an IP network. You can configure the RMU to run a SNMP management application.

1. Log into the RMU.
2. Click the **Configuration** tab.
3. In the **SNMP Configuration** area, do the following:
  - o To enable or disable the feature, select **ON** or **OFF** in the **SNMP Enabled** drop-down menu.
  - o To enable or disable SNMP alerts, select **ON** or **OFF** in the **Alerts Enabled** drop-down menu.
  - o In **Manager**, enter the SNMP server address(es). A maximum of 10 targets can be entered into this box after SNMP has been enabled.
  - o In **Public Name**, enter the name of the read-only SNMP community.
  - o In **Private Name**, enter the name of the read/write SNMP community.

4. Click **Submit** and review your changes (indicated in red).
5. Enter your password and click **Confirm** to complete the procedure.

The new values are saved. Note that you may need to redirect your Web browser to the new SNMP server address.

6. You will be instructed to reboot the RMU. Click **Done** to reboot.

## Downloading the SNMP MIB File

The SNMP Management Information Base (MIB) file will allow an SNMP management application to understand the SNMP traps generated by the RMU. If you are running an SNMP management application and need the library MIB, you can download it via the RMU.

1. Log into the RMU.
2. Click **SNMP MIB** in the left pane of the RMU interface.
3. Right-click **Download SNMP MIB** and click **Save Target As**.
4. Browse to your SNMP management server and click **Save**.

You will need to load the MIB file into the SNMP management application.

---

## Configuring RMU User Accounts

You can add unique users to the RMU. Only one administrator account is allowed, which maintains the login of *admin*.


### Adding/Removing Users

Only the admin account can add or remove users.

1. Click the **Configuration** tab.
2. In the **User Configuration** area, do one of the following:
  - o If you are adding a user:
    - a. In the **Management Action** drop-down menu, click **Create User**.
    - b. In **Edit New**, enter the user name.
    - c. In **Password**, enter the login password and then confirm it in **Re-enter Password**.
  - o If you are deleting a user:
    - a. In the **Management Action** drop-down menu, click **Delete User**.
    - b. In **Select One**, select the user you want to remove.
3. Click **Submit** and review your changes (indicated in red).
4. Enter your password and click **Confirm** to complete the procedure.

### Changing a Password

You can change your RMU password at any time. If you are the admin, you can change users' passwords.

1. Log into the RMU
  2. Click the **Configuration** tab.
  3. In the **User Configuration** area, select **Change User Password** from the **Management Action** drop-down menu.
  4. If not already selected, select the appropriate user account from the **Select One** drop-down menu.
    -  **NOTE:** Only the admin can modify another user's password.
  5. Click **Submit** and review your changes (indicated in red).
  6. Enter your password and click **Confirm** to complete the procedure.
- 

## Configuring the Time and Date

You can configure the date and time for the RMU. The date and time will be used in the RMU log file to report when events occurred.

1. Log into the RMU
2. Click the **Configuration** tab.
3. Enter the date and time in the **Date and Time** area.
4. Click **Submit** and review your changes (indicated in red).
5. Enter your password and click **Confirm** to complete the procedure.

### Synchronizing with an NTP server



You can connect the RMU to a network time (NTP) server to automatically set the time.

1. Log into the RMU.
  2. Click the **Configuration** tab.
  3. In the **Date and Time** area, select **ON** from the **Synchronization with NTP server** drop-down menu.
  4. In the **NTP Server IP Address** field, enter the IP address of the NTP server.
  5. In the **Timezone** field, enter the time zone deviation for the NTP server. To get a list of timezone variants, click list of **timezones**.
  6. Click **Submit** and review your changes (indicated in red).
  7. Enter your password and click **Confirm** to complete the procedure.
- 

## Updating Firmware



You can update firmware for the RMU, library, and drives. Before you update firmware, you need to have the firmware file in a location that is accessible from the RMU interface.

1. Log into the RMU.
2. Click the **Firmware** tab.
3. Select the firmware you would like to update.  
 **NOTE:** Some drives, such as SDLT-320, do not support remote firmware update. If drive firmware can be updated via the RMU, the drive name will appear in the list of targets.
4. Click **Browse** and browse to the location of the firmware update file.  
 **NOTE:** Downloading firmware can take several minutes. For details on how long it will take to download firmware, click **some time** above the **Update Firmware** button.
5. Click **Update Firmware**.

The firmware will be updated. If the library was selected for a firmware update, it will automatically reboot when the update is complete. If the RMU was selected, you will be prompted for a reboot when the update is complete.

---

## Viewing Diagnostic Files

From the RMU, you can view the diagnostic information for the attached library and RMU. This information can assist technical support personnel when diagnosing problems.

1. Log into the RMU.
2. Click the **Diagnostics file** tab.
3. Select the file you would like to view. The available options are:
  - o **Library Inventory Report** - Provides inventory report for the library.
  - o **Library Log** - Provides log report for the library.
  - o **Complete Log Report** - Provides log report for the library and RMU.
4. Click **Retrieve selected file**.

The file will be loaded.

5. Click **Display File** to view the file in a separate browser window.
- 

## Rebooting the RMU

The RMU can be rebooted through the **Configuration** tab.

1. Log into the RMU.
  2. Click the **Configuration** tab.
  3. In the **Reboot** area, click the link to reboot the RMU.
- 

## Rebooting the Library

The library can be rebooted through the **Configuration** tab.

1. Log into the RMU.
2. Click the **Configuration** tab.
3. In the **Reboot** area, click the link to reboot the library.

The library will reboot.

---

## Using the Operator Panel (via the RMU)

The RMU provides access to the library via a virtual Operator Panel.

1. Click the **Operator panel** tab.

A graphical representation of the Operator Panel will be displayed. You can click the arrow keys and control the library the same way that you would from the front of the library. For more information on the Operator Panel, see [Operator Panel Keypad](#).

---

## Getting Help

The RMU provides access to help for the following items:

1. Contents—Provides a description of each of the tabs on the RMU interface.
  1. SNMP MIB—Provides information on the SNMP MIB file. For more information, see [Configuring SNMP](#).
  1. Support—Provides information on contacting technical support.
  1. Version—Provides the current revision level of the RMU firmware.
1. Click on the item in the left pane of the RMU interface.

The information will be displayed in a separate browser window.

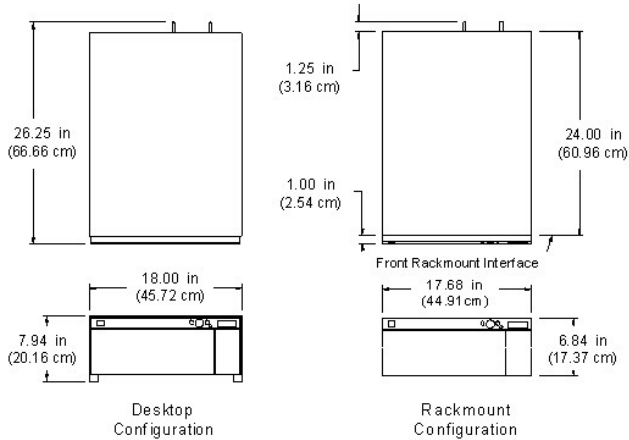
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## Specifications: Dell™ PowerVault™ 132T Tape Library User's Guide

The following tables provide specification information about the PowerVault 132T library.

### Dimensions



### Weight

Library with 1 drive	46 lbs (20.9 kg)
Library with 2 drives	54 lbs (24.5 kg)

### Storage Slot Count

	LTO	SDLT
Rear Tape Slots	9	8
Magazine Slots	7	6
Magazines per Library	2	2
Import/Export Slot (configured as a data slot)	1	1
Total Tape Slots	24	21

### Library Storage Capacity

	Tape Capacity	Library Capacity
LTO-1	100 GB	2.4 TB
SDLT-320	160 GB	3.36 TB
LTO-2	200 GB	4.8 TB
LTO-3	400 GB	9.6 TB

### Library Data Transfer Rates

	Drive Transfer Rate	Uncompressed	
		1 Drive	2 Drives
IBM LTO Ultrium 1	15 MB/s	54 GB/hr	108 GB/hr
Quantum SDLT-320	16 MB/s	57.6 GB/hr	115.2 GB/hr
IBM LTO Ultrium 2	35 MB/s	126 GB/hr	252 GB/hr
IBM LTO Ultrium 3	80 MB/s	288 GB/hr	576 GB/hr

### Operating Time

Average Cartridge Move Time	13.6 seconds
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## Safety and EMC Standards

Safety	CSA Standard CAN/CSA-C22.2 no. 950-95 UL Standard 1950, Third Addition EN60950
Emissions	FCC #47, Part 15, Subpart B, Class A; ICES-003 (Canada); VCCI Class A (Japan); BSMI CNS 13438 (Taiwan); EN55022:1994; EN61000-3-2:2001; EN61000-3-3:1998 (Europe); AS/NZS 3548:1995 (Australia/NZ)
Immunity	EN 55024:1998 ITE – Immunity Characteristics, Limits & Methods of Measurement; European Union CE Immunity Standards

## Power

Input Power	100–240 VAC, 50–60 Hz, 4.0–1.7 A
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Power Consumption (includes barcode scanner, RMU, SCSI Terminators)	RMS Power (W)				Peak Power (W)			
	LTO-1	LTO-2	LTO-3	SDLT	LTO-1	LTO-2	LTO-3	SDLT
One Drive	104	89	76	104	162	147	122	157
Two Drives	179	149	123	179	290	260	210	280
Two Drives with SNC	253	223	197	253	376	346	296	366

## Thermal Environment

	Operating	Non-operating	Shipping & Storage
Dry Bulb Temperature	10°C to 38°C (50°F to 100°F) @2000 M 10°C to 33°C (50°F to 91°F) @3000 M	10°C to 45°C (50°F to 113°F)	-40°C to 65°C (-40°F to 149°F)
Temperature Variation	3°C (5.5°F) per Minute Max	3°C (5.5°F) per Minute Max	3°C (5.5°F) per Minute Max
Wet Bulb Temperature	29°C (84°F) Max	32°C (90°F) Max	37°C (99°F) Max
Relative Humidity	10 to 90%	10 to 90%	10 to 95%

## Mechanical Environment

### Non-Operating Shock and Vibration

Swept Sine	Range	Peak G
Desktop & Rackmount	3-500-3	1.0
Random Vibration	Frequency	G <sup>2</sup> /Hz
Desktop & Rackmount	2 4 8 40 55 70 200 500	1.0x10 <sup>-3</sup> 3.0x10 <sup>-2</sup> 3.0x10 <sup>-2</sup> 3.0x10 <sup>-3</sup> 1.0x10 <sup>-2</sup> 1.0x10 <sup>-2</sup> 1.0x10 <sup>-3</sup> 1.0x10 <sup>-3</sup>
Shock	Pulse Amplitude (G)	Pulse Width
Desktop V H	150 100	2 2
Rackmount V H	100 100	3 3

### Operating Shock and Vibration

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Swept Sine	Range	Peak G
Desktop & Rackmount	3-500-3	0.3
Random Vibration	Frequency	G2/Hz
Desktop	5	2.0x10 <sup>-7</sup>
	17	2.2x10 <sup>-5</sup>
	45	2.2x10 <sup>-5</sup>
	48	2.2x10 <sup>-5</sup>
	62	2.2x10 <sup>-5</sup>
	65	2.2x10 <sup>-5</sup>
	150	2.6x10 <sup>-5</sup>
	200	2.2x10 <sup>-5</sup>
	500	2.2x10 <sup>-2</sup>
Rackmount	5	2.0x10 <sup>-5</sup>
	17	1.1x10 <sup>-3</sup>
	45	1.1x10 <sup>-3</sup>
	48	8.0x10 <sup>-3</sup>
	62	8.0x10 <sup>-3</sup>
	65	1.0x10 <sup>-3</sup>
	150	1.0x10 <sup>-3</sup>
	200	5.0x10 <sup>-4</sup>
	500	5.0x10 <sup>-4</sup>
Shock	Pulse Amplitude (G)	Pulse Width
Desktop V H	75	2
	50	2
Rackmount V H	50	3
	50	3

### Shipping Shock and Vibration

Sinusoidal	Frequency	Peak (G)
All three axis	2 — 200 — 2	0.5 g
Random Vibration	Frequency	PSD Level (G2/Hz)
All three axis	2	0.0010
	4	0.0300
	8	0.0300
	40	0.0030
	55	0.0100
	70	0.0100
	200	0.0010
Shock		
All six faces	Acceleration: 25 G, 25 ms, Square wave	Velocity: 55.5 m/s change in half sine wave pulse, 2-3 ms duration
Drop	Height	
All six faces, 1 edge, 1 corner	24"	

### Acoustic

Designation	Class 3C Table Top Unit
Upper Limit of Operating Sound Power*	62 dB (6.2 Bels)
Upper Limit of Idle Sound Power**	60 dB (6.0 Bels)
Maximum Operator Position Sound Pressure	61 dB

\*Operating is defined as exercising both robotic and tape drive components.

\*\*Idle mode is defined as the unit being powered on with no robotic or tape drive action.

### Library Interface

SCSI	The library can communicate through external HD 68 pin SCSI connectors on the Drive Module. LVD
Fibre Channel	The library can communicate through FC drives. A fibre channel interface is also provided in the optional Storage Networking Controller. It will support 50 Micron Multi-Mode Short-wave and 65 Micron Multi Mode Fibre.

### Reliability


MTBF (Mean Time Between Failures)	100,000 hours
MTTR (Mean Time To Repair)	Less than 30 minutes
MSBF (Mean Swap Between Failures) (A swap is defined as a pick and a place followed by a pick and a place)	500,000 swaps

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# Troubleshooting and Diagnostics: Dell™ PowerVault™ 132T Tape Library User's Guide



- [Installation Problems](#)
- [Error Messages](#)
- [Vital Product Data Recovery](#)
- [Environmental Considerations](#)
- [Improper Media Handling Considerations](#)

This section contains some general suggestions to aid you in solving problems.

 **NOTE:** Before working through this section, ensure that your library is running the most current firmware. Visit [support.dell.com](http://support.dell.com) to see the current firmware version for your library.

## Installation Problems

Usually, problems encountered during the installation of your library are caused by improper SCSI bus configuration, application software configuration errors, or by an operating system that has not been correctly configured. If the application software that you are attempting to use is not communicating with your library after installation, check the following:

SCSI IDs:	Make sure that the IDs you selected for the library robotics and tape drive are not the same as the ID used by any other SCSI device on that bus, including the host SCSI adapter card.
SCSI Cabling:	Verify that all SCSI cables are securely connected at both ends and that the jack screws are secured. Also, check the length and integrity of your SCSI cabling. The total length of a SCSI bus must not exceed 12 meters (39.4 feet). Try replacing suspect cables with known good cables. Align cable and sockets before seating. Be careful not to over tighten the screws.
 <b>NOTE:</b>	The length of the internal SCSI cabling inside your library is one foot for each drive. This length must be included in any calculations of bus length.
Termination:	Check that all SCSI buses are properly terminated. The last device in the SCSI chain must have the appropriate termination plug installed.
Compatibility:	Ensure that your library and its tape drive(s) are compatible with the SCSI adapter card and application software you plan to use. A SCSI adapter card must be LVD compatible. Most application software websites publish compatibility information.
SCSI Adapter Card Installation:	Verify that you have installed your SCSI adapter card correctly. Refer to the documentation that came with your card for installation and troubleshooting instructions. Pay particular attention to any steps describing the settings of various jumpers and/or switches on the card. Check that the card is seated fully in the I/O connector.
 <b>NOTE:</b>	For a list of compatible SCSI adapters and application software, check with your application software vendor.
Application Software Installation:	Refer to the documentation included with your software for instructions on how to verify installation.

## Error Messages

If, during operation of your library an error occurs, an error message will be displayed on the operator's display. [Table 1](#) lists the error messages you may encounter and recommend actions.

**Table 1. PowerVault 132T library error messages**

SAC Code	Error Message	Description	Recommended Action
00h	Unknown Error Call Service	An unexpected error has occurred	Capture the support and error logs and provide them to Technical Support.
01h	OS Error Reboot System	Operating system error	Reboot the system. If the problem persists, capture the support and error logs and contact Technical Support.
02h	Z80 Error Call Service	A robot controller, Operator Panel controller board, or main controller board hardware problem exists which requires replacement.	Contact Technical Support.
03h	OCP Error Call Service		
04h	XA Error Call Service		
05h	SW Error Call Service	Application software (firmware) error	Reboot the system. Capture the support and error logs and contact Technical Support.
10h	SN Missing Call Service	The system serial number is missing in NVRAM. The system cannot go online if a serial number is not entered. This problem may occur if the main board has been exchanged or NVRAM has been corrupted either due to a code problem or due to a bad NVRAM chip.	Contact Technical Support. Be prepared to provide the serial number, attached on a label inside the library under the left magazine, and any OEM vendor and product information, so that entry of the serial number can be verified.
13h	Barcode not	Ensure that the barcode label is present, is	Retry the failing operation.

	present on tape	properly installed, and is not damaged or dirty	
15h	Scanner Error Call Service	The barcode scanner is not functioning properly.	Reboot the system. If the problem persists, contact Technical Support.
16h	Bad Barcode Check Tape X	The scanned barcode is incorrect for your current configuration. This is most likely the result of a missing or unreadable barcode or a barcode length that does not match the mode you have configured (such as Default, Media ID, or Extended).	Check barcode scanner configuration. See <a href="#">Configure Barcode Scanner</a> for more information. Check the label of the cartridge indicated.
38h and 39h	RMU Problem Check RMU	The RMU has reported an error to the library.	Make sure the RMU is configured correctly, is operational, and is accessible on the network.
A0h	RMU Com Error Check RMU	The library firmware was able to communicate with the RMU, but did not detect any communication for more than 10 minutes. The RMU may have been removed or somehow has become non-operational.	Reboot the system. If the problem persists, contact Technical Support.
3Ah	SNC Problem Check SNC	An error has been sent to the library from the SNC.	Check the SNC. If the problem persists, contact Technical Support.
A2h	SNC Com Error Check SNC	There is a communication problem between the library and the SNC.	Check the SNC. Reboot the system. If the problem persists, contact Technical Support.
40h	CFG Mismatch Call Service	The firmware detects that the code configuration does not match the hardware configuration. This may happen when the wrong firmware is loaded (for example, an LTO code image is loaded to an SDLT-320 system).	Reboot the system. If the error persists, contact Technical Support and provide them with the system model and firmware version.
70h, 81h, and 82h	Picker Error Reset System	The picker was unable to perform a requested command.	Ensure that the picker path is clear and that cartridges are properly inserted into storage and IE slots, as well as drive locations. Reboot the system. If the problem persists, contact Technical Support.
7Eh	Media Error Eject Tape	The media in the drive is worn out or has a buckle error.	Replace the cartridge.
9Bh	DrvX Thread Er Check Media	A damaged tape leader on the media has caused a buckling failure or a dropped leader inside the drive.	Remove the cartridge from the drive by pressing and holding the eject button on the drive for 10 seconds. Discard the suspect cartridge. See <a href="#">Improper Media Handling Considerations</a> for more information.  If the lights on the front of the drive continue to flash after the tape has been removed, contact Technical Support.
90h	Drive Error Check Drive	Communication to a drive is not working, the drive is not initializing, or the drive is reporting a problem.	Reboot the system. If the problem persists, remove the drive and re-install it. If the problem still persists, contact Technical Support, you may need to exchange the drive.
92h	Drv X Invalid Call Service	The configured drive at slot X is not supported in the library.	Remove the drive at the specified location. Contact Technical Support.
94h	Drive Media Error	Indicates drive media error.	Remove the suspect tape.
EAh	Sled Missing Check Sled	A drive sled has been removed or is not connected properly.	Re-insert the sled or check the connections.
D0h	PS Failure Call Service	A library power supply failed or is not operating within specified ranges.	Reboot the system. If the problem persists, contact Technical Support.
F0h	Fan Failure Call Service	A library or drive fan failed.	Prevent the system from becoming too hot and either turn off the library or remove the drive with the bad fan. Contact Technical Support.
80h and E0h	Obstruction Check Picker	The picker has reported a move failure, which may be caused by an obstruction of the picker, such as partially extended tapes into the picker path, an ejected tape from a drive, or a tape within the picker partially extending out of the picker.	Try to clear the obstruction. Contact Technical Support.
E7h	Pick Failed Clear Picker	The picker could not GET or PUT a tape. Typically this means a tape is still partially in the picker.	Remove the tape from the picker. For more information, see <a href="#">Removing a Tape From the Picker</a> .
E8h	Place Failed Clear Picker		
E9h	Tape Recovered to Cell X	Informational message that indicates that a tape had been detected in the picker assembly and was placed in a slot location (X) to free the picker and make it operational.	Make sure that the tape belongs in the location it was placed. You may have to use the Move Media function to move the tape to the proper location.
E2h	Security Alert Check Door	The system has detected operator interference, such as an open door and magazine removal, or a host has issued a PREVENT MEDIA REMOVAL and a tape has been inserted or removed from the IE slot.	Check and ensure that magazines are installed and that the door is closed. Also ensure that you have not inserted or removed a tape from the IE slot.
E3h, E4h, E5h, and E6h	SCSI Error Check SCSI	A SCSI connection problem has been detected.	Make sure the cables are connected correctly, the bus type (LVD) is connected correctly, and the proper terminator is applied.
F5h	Clean Needed	A drive has been cleaned, but still requires cleaning. The cleaning tape may not function	Retry the clean operation.



	Check Drive X	properly, may be expired, or the drive may be defective.	
F6h	Tape Expired Eject Slot X	A cleaning tape is expired.	Export the cleaning tape and insert a new one.
F7h	No Clean Tape Insert Tape	A cleaning operation was attempted, but a cleaning tape is not configured, expired, or not available.	Insert a cleaning tape into the IE slot or configure a cleaning slot and import a cleaning tape into that slot.
F8h	Tape Missing in Slot X	A previously configured cleaning tape is no longer found. It may have been removed manually, loaded in a drive, or recovered to a data slot.	Place the cleaning tape back into the slot.

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## Vital Product Data Recovery

The Vital Product Data feature allows library settings to be automatically stored on both the RMU and the chassis. The feature prevents customized settings, such as slot configurations, from being lost when one FRU is replaced (chassis, RMU, or drive) is replaced. This feature works with LTO drive types only.

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## Environmental Considerations

For best performance of your library, and to minimize the chance of condensation, observe the following guidelines:

1. Install your library on a level surface. Do not place the library on a carpeted surface.
1. If you expose cartridges to temperatures outside the operating limits, (see [Specifications](#)), stabilize them by leaving the cartridges in the operating temperature for a minimum of two hours before you use them.
1. Avoid temperature problems by ensuring that the library front and rear panels are not obstructed so that the drive has adequate ventilation.
1. Position the library where the temperature is relatively stable (i.e., away from open windows, fan heaters, and doors).
1. Avoid leaving cartridges in severe temperature conditions, for example, in a car standing in bright sunlight.
1. Avoid transferring data (reading from and writing to cartridges) when the temperature is changing by more than 10 °C (15 °F) per hour.

---

## Improper Media Handling Considerations

When the SDLT tape leader fails to engage with the SDLT drive leader, a drive hardware failure may occur. A damaged or mishandled cartridge is the most likely cause of SAC Error 9Bh - Drvx Thread Er Check Media. The drive may be recoverable depending on the magnitude of damage to the cartridge.

1. Open the library door to gain physical access to the drive.
2. Manually remove the cartridge by pressing and holding the eject button on the tape drive for 10 seconds. V93 (5D5D) or above is required on the SDLT drive to allow manual ejection. Ejecting the cartridge via the OCP is intentionally disabled.
3. Remove the cartridge from the library and set it aside. Mishandled media is often difficult to recognize by simple visual inspection. Do not use this media in another drive, as it may damage the drive. When the tape is ejected it should be quarantined and discarded. If the tape must be reused, refer to the DLT Media Handling document found on [Dell.com](#) to inspect your media.
4. After the cartridge is removed, observe the lights on the drive that indicate one of two situations:
  - o If the lights no longer blink, the drive leader is intact and the drive hardware is still usable. However, the cartridge is unusable since it can no longer be threaded into the drive.
  - o If the lights on the drive still blink, the drive leader is no longer intact and the drive needs to be replaced. Contact [Dell Technical Support](#).

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