

DDS TAPE DRIVES



Revision C.09.02

Note: This handbook is designed to serve as a reference for the most frequently used material of the trained HP Customer Engineer. The information found within is condensed from other sources, such as manuals and Product Support Plans, and is not intended to be a substitute for these documents

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DDS REPLACEMENT PART NUMBERS

Model	Mechanism	Controller	Power Supply	Inquiry String	Notes
A1447A	C1536-69201	N/A	N/A	HP35480A	Note 4 DDS1
A1990A	C1536-69201	N/A	N/A	HP35480A	Note 4 DDS1
A2254A	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
A2274A	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
A2275A	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
A2474A	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
A2475A	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
A2642A	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
A2643A	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
A2656A	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
A3183A	C1539-69202	N/A	N/A	HPC1533A	Note 1 DDS2
A3322A	A3322-69001	N/A	N/A	HPC1533A	Jamaica Enclosure – DDS2
A3324A	C1539-69202	N/A	5061-8510	HPC1533A	Note 1 DDS2
A3330A	C1539-69202	N/A	N/A	HPC1533A	Note 1 DDS2
A3400A	A3716-69301	N/A	Whole unit swap	HPC1557A	Note 3 DDS3 Autoloader
A3415A	C1536-69201	N/A	N/A	HP35480A	DDS1
A3542A	C1537-69202	N/A	N/A	HPC1537A	DDS3
A3640A	A3640-69001	N/A	N/A	HPC1537A	Jamaica Enclosure – DDS3
A3716A	A3716-69301	N/A	Whole unit swap	HPC1557A	DDS3 Autoloader
A4076A	C1536-69201	N/A	N/A	HP35480A	DDS1
A4186A	C1536-69201	N/A	N/A	HP35480A	DDS1
A4187A	C1536-69201	N/A	N/A	HP35480A	DDS1
A4216A	C1539-69202	N/A	N/A	HPC1533A	Note 1 DDS2
A4243A	C1537-69202	N/A	N/A	HPC1537A	DDS3
A4249A	C1537-69202	N/A	N/A	HPC1537A	DDS3
A4252A	C1537-69202	N/A	N/A	HPC1537A	DDS3
A4281A/D	C1536-69201	N/A	N/A	HP35480A	DDS1
A4292A	C1539-69202	N/A	N/A	HPC1533A	DDS2
A4306A	C1539-69202	N/A	N/A	HPC1533A	Note 1 DDS2
A4307A	C1539-69202	N/A	N/A	HPC1533A	DDS2
A4448A	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
A4462A	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
A4462D	C1536-69201	N/A	N/A	HP35480A	DDS1
A4465A	C1539-69202	N/A	N/A	HPC1533A	Note 1 DDS2
A4466A	C1539-69202	N/A	N/A	HPC1533A	Note 1 DDS2
A4466D	C1539-69202	N/A	N/A	HPC1533A	DDS2
A4467A	C1539-69202	N/A	N/A	HPC1533A	Note 1 DDS2
A4467D	C1539-69202	N/A	N/A	HPC1533A	DDS2
A4741A	A3716-69301	N/A	Whole unit swap	HPC1557A	DDS3 Autoloader
A4827A	C1537-69202	N/A	N/A	HPC1537A	DDS3
A4956A	C1539-69202	N/A	N/A	HPC1533A	DDS2
A5011A	C1537-69202	N/A	N/A	HPC1537A	DDS3
A5071A	C1537-69202	N/A	N/A	HPC1537A	DDS3
A5558A	C1537-69202	N/A	N/A	HPC1537A	DDS3
C1501A	C1501-69203	C1501-67001	N/A	HPC1501A	HPIB DDS1
C1502A	C1536-69201	N/A	N/A	HP35480A	Note 4 DDS2

Model	Mechanism	Controller	Power Supply	Inquiry String	Notes
	<i>New</i>				
C1503B/C	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
C1504B/C	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
C1511A	C1501-69203	C1501-67001	09133-67120	HPC1501A	HPIB DDS1
C1512A	C1536-69201	N/A	N/A	HP35480A	Note 4 DDS1
C1513C	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
C1514C	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
C1520A/B	C1520-69202 Europe Only C1520-69302 US/Asia Only		5061-8510	HP35470A	DDS1
C1520E/F	C1520-69202 Europe Only C1520-69302 US/Asia Only		5061-8510	HP35470A	DDS1
C1520G/H	C1520-69203	N/A	5061-8510	HP35470A	DDS1
C1521A	C1521-69202 Europe Only C1521-69302 US/Asia Only		5061-8510	HP35480A	DDS1
C1521B	C1504-69201	N/A	5061-8510	HP35480A	DDS1
C1521E/F	C1521-69202 Europe Only C1521-69302 US/Asia Only		5061-8510	HP35480A	DDS1
C1521G/H/J	C1521-69203	N/A	5061-8510	HP35480A	DDS1
C1521K	C1521-69204	N/A	5061-8510	HP35480A	DDS1
C1522A/E	C1520-69202 Europe Only C1520-69302 US/Asia Only		5061-8510	??	For Macintosh PC's
C1523A/E	C1520-69202 Europe Only C1520-69302 US/Asia Only		5061-8510	HP35470A	DDS1
C1524A/E	C1521-69202 Europe Only C1521-69302 US/Asia Only		5061-8510	HP35480A	DDS1
C1525A/F	C1525-69202 Europe Only C1525-69302 US/Asia Only		N/A	HPC1534A	DDS1
C1525G/H	C1525-69203	N/A	5061-8510	HPC1536A	DDS1
C1526A/F	C1526-69202 Europe Only C1526-69302 US/Asia Only		N/A	HP35480A	DDS1
C1526G/H/J	C1526-69203	N/A	N/A	HPC1536A	DDS1
C1526K	C1526-69204	N/A	N/A	HPC1536A	DDS1
C1527A	C1521-69202 Europe Only C1521-69302 US/Asia Only		N/A	HP35480A	DDS1
C1528A/F	C1528-69202 Europe Only C1528-69302 US/Asia Only		N/A	HPC1533A	DDS2
C1528G/H/J	C1528-69203	N/A	N/A	HPC1539A	DDS2
C1528K	C1528-69204	N/A	N/A	HPC1539A	DDS2
C1529A/F	C1529-69202 Europe Only C1529-69302 US/Asia Only		5061-8510	HPC1533A	DDS2
C1529G/H/J	C1528-69203	N/A	N/A	HPC1539A	DDS2
C1529K	C1528-69204	N/A	N/A	HPC1539A	DDS2
C1530B	C1533-69203 C1539-69201	N/A	5061-8510	HPC1533A	Note 1 DDS2
C1531A	C1528-69202 Europe Only C1528-69302 US/Asia Only		N/A	HPC1533A	DDS2
C1533A	C1533-69203 C1539-69202	N/A	N/A	HPC1533A	Note 1 DDS2
C1534A	C1534-69201	N/A	N/A	HP35470A	DDS1
C1536A	C1536-69201	N/A	N/A	HP35480A	DDS1
C1537A	C1537-69202	N/A	N/A	HPC1537A	DDS3

Model	Mechanism	Controller	Power Supply	Inquiry String	Notes
C1538A	C1537-69202	N/A	5061-8510	HPC1537A	DDS3
C1539A	C1539-69202	N/A	N/A	HPC1533A	DDS2
C1541A	C1529-69202 Europe Only C1529-69302 US/Asia Only		5061-8510	HPC1533A	DDS2
C1551A	C1551-69202 Europe Only C1551-69302 US/Asia Only		Whole unit swap	HPC1533A	DDS2
C1551B/C	C1551-69203	N/A	N/A	HPC1533A	DDS2
C1552A	C1552-69202 Europe Only C1552-69302 US/Asia Only		N/A	HPC1533A	DDS2
C1552B/C	C1552-69203		N/A	HPC1539A	DDS2
C1552D	C1552-69204		N/A	HPC1539A	DDS2
C1553A	C1553-20150	N/A	N/A	HPC1553A	DDS2 Autoloader
C1554A	C1537-20100	N/A	N/A	HPC1537A	DDS3
C1555A/B/C	C1555-69201	N/A	N/A	HPC1537A	DDS3
C1555D	C1555-69202	N/A	N/A	HPC1537A	DDS3
C1556A/B/C	C1556-69201	N/A	N/A	HPC1537A	DDS3
C1556D	C1555-69202	N/A	N/A	HPC1537A	DDS3
C1559A/B	C1559-69201	N/A	Whole unit swap	HPC1557A	DDS3 Autoloader
C1560B	A3716-69301	N/A	Whole unit swap	HPC1557A	Note 3 DDS3 Autoloader
C1561A	C1561-69301	N/A	Whole unit swap	HPC1553A	
C1562B	A3716-69301	N/A	Whole unit swap	HPC1557A	Note 3 DDS3 Autoloader
C1565A/B /C	C1561-69301	N/A	Whole unit swap	HPC1537A	DDS3
C1567A	C1520-69202 Europe Only C1520-69302 US/Asia Only		Whole unit swap	HP35470A	DDS1
C1567B	C1520-69203	N/A	Whole unit swap	HP35470A	DDS1
C1568A	C1521-69202 Europe Only C1521-69302 US/Asia Only		Whole unit swap	HP35480A	DDS1
C1568B	C1521-69203	N/A	Whole unit swap	HP35480A	DDS1
C1569A/B/C	C1539-69202	N/A	N/A	HPC1533A	Note 1 DDS2
C1590A	C1501-69203	C1501-67001	09133-67120	HPC1501A	DDS1
C1591A/B	C1521-69203	N/A	N/A	HP35480A	DDS1
C1592A/B	C1526-69203	N/A	N/A	HP35480A	DDS1
C1593A/B/C	C1521-69203	N/A	N/A	HP35480A	DDS1
C1594A/B/C	C1526-69203	N/A	N/A	HP35480A	DDS1
C1595A	C1529-69202 Europe Only C1529-69302 US/Asia Only		Whole unit swap	HPC1533A	DDS2
C1595B/C	C1529-69203		Whole unit swap	HPC1533A	DDS2
C1596A	C1528-69202 Europe Only C1528-69302 US/Asia Only		Whole unit swap	HPC1533A	DDS2
C1596B/C	C1528-69203		Whole unit swap	HPC1533A	DDS2
C1597A	C1529-69202 Europe Only C1529-69302 US/Asia Only		Whole unit swap	HPC1533A	DDS2
C1597B/C/D	C1529-69204		Whole unit swap	HPC1533A	DDS2
C1597E	C1529-69203		Whole unit swap	HPC1533A	DDS2
C1598A	C1528-69202 Europe Only C1528-69302 US/Asia Only		Whole unit swap	HPC1533A	DDS2
C1598B/C/D	C1528-69203		Whole unit swap	HPC1533A	DDS2
C1598E	C1528-69204		Whole unit swap		DDS2
C1599A	C1539-20100	N/A	N/A	HPC1533A	DDS2
C2224A	C1536-69201	N/A	N/A	HP35480A	Note 4 DDS1
C2224B/C	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2

Model	Mechanism	Controller	Power Supply	Inquiry String	Notes
C2224X	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
C2292X	C1536-69201	N/A	N/A	HP35480A	Note 4 DDS1
C2297X	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
C2298X	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
C2463X	C1536-69201	N/A	N/A	HP35480A	Note 4 DDS1
C2464X	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
C2465X	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
C2466X	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
C2467X	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
C2475X	C1536-69201	N/A	N/A	HP35480A	Note 4 DDS1
C2477X	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
C2478X	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
C2954A	C1539-69202	N/A	N/A	HPC1533A	Note 5 DDS2
C2954B	C1539-69202	N/A	5063-1272	HPC1533A	DDS2
C2954D	C1539-69202	N/A	5063-1272	HPC1533A	DDS2
C2983A	C6362-69002	N/A	Whole unit swap	HPC1533A	Note 2 DDS2
C2983D	C6362-69002	N/A	Whole unit swap	HPC1533A	Note 2 DDS2
C2984A	C1537-69202	N/A	5063-1272	HPC1537A	DDS3
C3556U	C1539-69202	N/A	N/A	HPC1533A	Note 1 DDS2
C3557R	C1539-69202	N/A	N/A	HPC1533A	Note 1 DDS2
C5293A	C1539-69202	N/A	N/A	HPC1533A	Note 1 DDS2
C5648A	C5648-20100	N/A	N/A	??	DDS3 Autoloader
C5649A	C1559-69201	N/A	Whole unit swap	HPC1557A	DDS3 Autoloader
C5650A/B	C1559-69201	N/A	Whole unit swap	HPC1557A	DDS3 Autoloader
C5651A/B	C1559-69201	N/A	Whole unit swap	HPC1557A	DDS3 Autoloader
C5653A/B	C5653-69202	N/A	N/A	HPC1537A	DDS3
C5653C	C5653-69202	N/A	N/A	HPC1537A	DDS3
C5677A	C5677-69201	N/A	N/A	HPC1537A	DDS3
C5685A	C5685-69202	N/A	Whole unit swap	HPC5683A	DDS 4 Express Exchange Only
C5686A	C5686-69202	N/A	Whole unit swap	HPC5683A	DDS 4 Express Exchange Only
C5687A	C5687-69202	N/A	Whole unit swap	HPC5683A	DDS 4 Express Exchange Only
C5691A	C1528-69204	N/A	N/A	HPC1539A	DDS2
C5692A	C1529-69204	N/A	N/A	HPC1539A	DDS2
C5696A	C5696-69201	N/A	N/A	HPC1537A	DDS3
C5700A	C1555-69202	N/A	N/A	HPC1537A	DDS3
C5700B	C1555-69202	N/A	N/A	HPC1537A	DDS3
C5701A	C1556-69202	N/A	N/A	HPC1537A	DDS3
C5701B	C1556-69202	N/A	N/A	HPC1537A	DDS3
C5715A	C5715-20100	N/A	Whole unit swap	HPC5683A	DDS4 Autoloader
C5716A	C5716-69201	N/A	Whole unit swap	HPC5683A	DDS4 Autoloader
C5717A	C5717-69201	N/A	Whole unit swap	HPC5683A	DDS4 Autoloader
C5735A	C1599-69201	N/A	N/A	HPC1536A	DDS1
C5737A	C1599-69201	N/A	N/A	HPC1536A	DDS1
C6360A	C6360-69007	N/A	Whole unit swap	HP35480A	DDS1
C6362A	C6362-69002	N/A	Whole unit swap	HPC1533A	DDS2
C6363A	C6363-69002	N/A	Whole unit swap	HPC1533A	DDS2
C6364A	C6364-69004	N/A	Whole unit swap	HPC1537A	DDS3
C6365A	C6365-69002	N/A	Whole unit swap	HPC1537A	DDS3
C6366A	C6366-69006	N/A	Whole unit swap	HPC1537A	DDS3 Autoloader
C6367A	C6367-69002	N/A	Whole unit swap	HPC1557A	DDS3 Autoloader

Model	Mechanism	Controller	Power Supply	Inquiry String	Notes
C6368A	C6368-69001	N/A	Whole unit swap	HPC5683A	DDS4
C6369A	C6369-69001	N/A	Whole unit swap	HPC5683A	DDS4
C6370A	C6370-69001	N/A	Whole unit swap	HPC5683A	DDS4 Autoloader
C6371A	C6371-69001	N/A	Whole unit swap	HPC5683A	DDS4 Autoloader
C6513A	C6513-69001	N/A	Whole unit swap	HPC1537A	DDS3
C6525A	C6525-69001	N/A	Whole unit swap	HPC1537A	DDS3
C6532A	C6532-69001	N/A	Whole unit swap	HPC1533A	DDS2
C6533A	C6533-69001	N/A	Whole unit swap	HPC1533A	DDS2
C6541A	C6541-69001	N/A	Whole unit swap	HPC5683A	DDS4
C7429A	C7429-20100	N/A	Whole unit swap	HPC1537A	DDS3 Autoloader
C7437A	C7437-20100	N/A	Whole unit swap	HPC5683A	DDS4 Autoloader Black Front Panel

Notes:

1.	The DDS2 Othello mech C1533-69203 has been replaced by the Andronicus kit C1539-67203. The replacement part number for the mech only is C1539-69201
2.	The C2983A/D changed from assembly level replacement to whole unit swap Oct 1998
3.	The DDS2 Autoloader C1560-69301 has been replaced by the DDS3 Ulysses kit A3716-67201. The replacement part number for full unit swap is A3716-69301
4.	The DDS1 mech C1502-69203 has been replaced with the Quickfix kits C1536-67203/67303. The replacement mech is C1536-69201
5	The internal DDS 1 mech (C1503-69201 and C1504-69201) is being replaced by C1539-67204 upgrade kit. This does not apply to the external C1520B and C1521B. For A2656A and C2954A/D, order these 3 parts as well..... C2953-62010 Chassis Kit C2953-40007 HP PAC Top C2953-40023 HP PAC Bottom

HP DDS FIRMWARE KIT PART NUMBERS and REVISIONS

Product Number	Where Used	Current Revision	Firmware Kit Part Number
A1447A	SCSI 1.3 GB Drive Mech	C	C1502-10003
A1990A	SCSI 1.3 GB Drive Mech for Series 750 System	C	C1502-10003
A2254A	2.0 GB Drive Mech for Series 382 System	10.7.	C1503-89210*
A2274A	2.0 GB Drive Mech for Series 7XX System	10.7.	C1503-89210*
A2275A	2-8 GB Drive Mech for Series 7XX Systems	10.7.	C1504-89210*
A2474A	2.0 GB Drive Mech for Series 7XX System	10.7.	C1503-89210*
A2475A	2-8 GB Drive Mech for Series 7XX Systems	10.7.	C1504-89210*
A2642A	2.0 GB Drive Mech for Series 7XX System	10.7.	C1503-89210*
A2643A	2-8 GB Drive Mech for Series 7XX Systems	10.7.	C1504-89210*
A2656A	2-8 GB Drive Mech for Series 712 Systems	10.7.	C1504-89210*
A3183A	4-16 GB Drive Mech for Multi-user Systems	AN04	**
A3322A	4-16 GB Drive Mech for Jamaica enclosure	HP01	C1533-89216*
A3324A	4-16 GB Standalone Drive for Multi-user Systems	HP01	C1533-89216*
A3330A	4-16 GB Drive Mech for Multi-user Systems	HP01	C1533-89216*
A3400A	4-16 GB Standalone Changer for Multi-user Systems	NS01	C1553-89208*

Product Number	Where Used	Current Revision	Firmware Kit Part Number
A3542A	12-24 GB Drive Mech for Multi-user Systems	HP01	C1533-89216*
A3640A	12-24 GB Drive Mech for Jamaica enclosure	HP01	C1533-89216*
A3716A	12-24 GB Standalone Changer for Multi-user Systems	UL01	C1557-89202*
A4076A	2-8 GB Drive Mech for Series 700 Systems	TI00	C1536-xxxxx
A4186A	2-8 GB Drive Mech for Series 700 Systems	TI00	C1536-xxxxx
A4187A	2-8 GB Drive Mech for Series 700 Systems	TI00	C1536-xxxxx
A4243A	12-24 GB Drive Mech for Series PA7300 Workstation	HP02	C1537-89204*
A4249A	12-24 GB Drive Mech for Series 800 Systems	HP02	C1537-89204*
A4252A	12-24 GB Drive Mech for Series 700 Systems	HP02	C1537-89204*
A4281A/D	2-4 GB Drive Mech for Multi-user Systems	10.7.	C1504-89210*
A4292A	4-16 GB Drive Mech for Series 700 Systems	AN04	**
A4306A	4-16 GB Drive Mech for Series 700 Systems	AN04	**
A4307A	4-16 GB Drive Mech for Series 700 Systems	AN04	**
A4462A	2-8 GB Drive Mech for Series 700 Systems	10.7.	C1504-89210*
A4462D	2-8 GB Drive Mech for Series 700 Systems	TI00	C1536-xxxxx
A4465A	4-16 GB Drive Mech for Series 700 Systems	AN04	**
A4466A	4-16 GB Drive Mech for Series 700 Systems	HP01	C1533-89216*
A4466D	4-16 GB Drive Mech for Series 700 Systems	AN04	**
A4467A	4-16 GB Drive Mech for Series 700 Systems	HP01	C1533-89216*
A4467D	4-16 GB Drive Mech for Series 700 Systems	AN04	**
A4741A	12-24 GB Standalone Changer for Multi-user Systems	UL01	C1557-89202*
A4827A	12-24 GB Drive Mech for Series SP2200 Systems	HP02	C1537-89204*
A4956A	4-16 GB Drive Mech for Series 800 Systems	AN04	**
A5011A	12-24 GB In-bedded Drive Mech for Forte Systems	HP02	C1537-89204*
A5071A	12-24 GB Drive Mech for S and X Class Systems	HP02	C1537-89204*
A5558A	12-24 GB Drive Mech for L Class Systems	HP02	C1537-89204*
C1501A	HPIB 1.3 GB Drive Mech for Multi-user Systems	C	C1501-10003
C1502A	SCSI 1.3 GB Drive Mech for Multi-user Systems	C	C1502-10003
C1503B	SCSI 2.0 GB Drive Mech for Multi-user Systems	10.7.	C1503-89210*
C1504B	2-8 GB Drive Mech for Multi-user Systems	10.7.	C1504-89210*
C1511A	HPIB 1.3 GB Standalone Drive	C	C1501-10003
C1512A	SCSI 1.3 GB Standalone Drive	C	C1502-10003
C1520B	2.0 GB Standalone Drive for Multi-user Systems	10.7.	C1503-89210*
C1521B	2-8 GB Standalone Drive for Multi-user Systems	10.7.	C1504-89210*
C1530B	4-16 GB Standalone Drive for Multi-user Systems	HP01	C1533-89216*
C1533A	4-16 GB Drive Mech for Multi-user Systems	HP01	C1533-89216*
C1534A	2.0 GB Drive Mech for Multi-user Systems	X.XX	C1534-xxxxx
C1536A	2-8 GB Drive Mech for Multi-user Systems	TI00	C1536-xxxxx
C1537A	12-24 GB Drive Mech for Multi-user Systems	HP02	C1537-89204*
C1539A	4-16 GB Drive Mech for Multi-user Systems	AN04	**
C1553A	4-16 GB Changer Mech for OEM/VAR	5	C1553-89004*
C1560B	4-16 GB Standalone Changer for Multi-user Systems	NS01	C1553-89208*
C1561A	4-16 GB Changer Mech for Series 700 Systems	5	C1553-89004*
C1562B	4-16 GB Standalone Changer/SW for Multi-user Systems	NS01	C1553-89208*
C2298X	2-8 GB Drive Mech for Multi-user Systems	10.7.	C1504-89210*
C2463X	SCSI 1.3 GB Drive Mech for Multi-user Systems	C	C1502-10003
C2464X	2.0 GB Drive Mech for Multi-user Systems	10.7.	C1503-89210*
C2465X	2.0 GB Drive Mech for Multi-user Systems	10.7.	C1503-89210*
C2466X	2-8 GB Drive Mech for Multi-user Systems	10.7.	C1504-89210*
C2467X	2-8 GB Drive Mech for Multi-user Systems	10.7.	C1504-89210*

Product Number	Where Used	Current Revision	Firmware Kit Part Number
C2475X	SCSI 1.3 GB Drive Mech for Multi-user Systems	C	C1502-10003
C2477X	2.0 GB Drive Mech for Multi-user Systems	10.7.	C1503-89210*
C2478X	2-8 GB Drive Mech for Multi-user Systems	10.7.	C1504-89210*
C2954A	2-8 GB Drive Mech for Multi-user Systems	10.7.	C1504-89210*
C2954D	2-8 GB Drive Mech for Multi-user Systems	TI00	C1536-xxxxx*
C2983X	4-16 GB Drive Mech for Multi-user Systems	HP01	C1533-89216*
C2984A	12-24 GB Drive Mech for Multi-user Systems	HP02	C1537-89204*
C3556U	4-16 GB Drive Mech for Multi-user Systems	HP01	C1533-89216*
C5293A	4-16 GB Drive Mech for Multi-user Systems	AN04	**
C5648A	12-24 GB Standalone Changer for VAR/Dealer	xx.x	xxxxx.xxxxx
C5649A	4-16 GB Desk top DDS 2 Mech. for VAR/Dealer	xx.x	xxxxx.xxxxx
C5650A/B	12-24 GB Standalone Auto-changer for VAR/Dealer	xx.x	xxxxx.xxxxx
C5653A	4-16 GB Standalone Drive for VAR/Dealer	AN04	**
C5685/6/7A	20-40 GB Rackready LVDS Drive for Servers	xx.x	xxxxx.xxxxx
C5715/6/7A	20-40 GB Standalone Auto-changer for VAR/Dealer	xx.x	xxxxx.xxxxx
C6360A	2-8 GB Desk top DDS 1 Mechanism	10.7.	C1504-89210*
C6362A	4-16 GB Desk top DDS 2 Mechanism	AN04	**
C6363A	4-16 GB Rackready DDS 2 Mechanism.	AN04	**
C6364A	12-24 GB Desk top DDS 3 Mechanism	HP02	C1537-89204*
C6365A	12-24 GB Rackready DDS 3 Mechanism.	HP02	C1537-89204*
C6366A	12-24 GB Desk top Changer for Multi-user Systems	UL01	C1557-89202*
C6367A	12-24 GB Rackready Changer for Multi-user Systems	UL01	C1557-89202*
C6368A <i>New</i>	20-40 GB Rackready LVDS Drive for Servers	xx.x	xxxxx.xxxxx
C6369A <i>New</i>	20-40 GB Rackready LVDS Drive for Servers	xx.x	xxxxx.xxxxx
C6370A <i>New</i>	20-40 GB Desktop Auto-changer for Multi-user	xx.x	xxxxx.xxxxx
C6371A <i>New</i>	20-40 GB Rack-Ready Auto-changer for Multi-user	xx.x	xxxxx.xxxxx
C6513A	12-24 GB Rackready DDS 3 Mechanism.	HP02	C1537-89204*
C6525A	12-24 GB Rackready DDS 3 Mechanism.	HP02	C1537-89204*
C6532A	4-16 GB Rackready DDS 2 Mechanism.	AN04	**
C6533A	4-16 GB Rackready DDS 2 Mechanism.	AN04	**
C6541A	20-40 GB Rackready LVDS Driver for Servers	C907	xxxxx.xxxxx
C7429A	12-24 GB Desk top Changer for Multi-user Systems	UL01	C1557-89202*
C7437A	20-40 GB Black Standalone Auto-changer VAR/Dealer	xx.x	xxxxx.xxxxx

- * The Firmware kit contains a Cassette tape which is valid for 200 updates and instructions
- ** AN04 IS NOT orderable. It can only be FTP'ed from the WTEC web site:
- <ftp://hphwec07.cup.hp.com/dist/DDS>

DDS FRONT PANEL PART NUMBERS

Model	Mech Part Number	Size	Color	Part Number	NOTES
C1503B	C1503-69201	3.5"	Dove Grey	C1503-60100	DDS1
		5.25"	Dove Grey	C1503-60200	DDS1
C1504B	C1504-69201	5.25"	Dove Grey	C1504-60200	DDS1 DCLZ
C1533A	C1533-69203	5.25"	Dove Grey	C1504-60211	DDS2
	C1533-69203	5.25"	Flint Grey	C1533-60202	DDS2
C1534A	C1534-69201	3.5"	Dove Grey	C1534-60118	DDS2
	C1534-69201	3.5"	Flint Grey	C1534-60116	DDS2
	C1534-69201	5.25"	Dove Grey	C1534-xxxxx	
	C1534-69201	5.25"	Flint Grey	C1534-xxxxx	
C1536A	C1536-69201	3.5"	Dove Grey	C1534-60107	DDS2
	C1536-69201	3.5"	Flint Grey	C1534-60103	DDS2
	C1536-69201	5.25"	Dove Grey	C1534-60207	DDS2
	C1536-69201	5.25"	Flint Grey	C1534-60208	DDS2
C1537A	C1537-69201	3.5"	Dove Grey	C1533-60104	DDS3
	C1537-69201	3.5"	Flint Grey	C1533-60105	DDS3
	C1537-69201	5.25"	Dove Grey	C1533-60204	DDS3
	C1537-69201	5.25"	Flint Grey	C1533-60205	DDS3
C1539A	C1539-69202	3.5"	Dove Grey	C1534-60118	DDS2
	C1539-69202	3.5"	Sable Black	C1534-60115	DDS2
	C1539-69202	3.5"	Flint Grey	C1534-60116	DDS2
	C1539-69202	5.25"	Flint Grey	C1534-60225	DDS2
	C1539-69202	5.25"	Dove Grey	C1534-60226	DDS2

SCSI DDS TAPE DRIVE REPLACEMENT/REFERENCE CHART

Int. Model	Code Name	Format	Max Tape	Capacity	Transfer Rate/Sec	Software Id	Replaced by	Notes
C1502A	Quick Step	DDS 1	60 Meter	1.3 GB	183 KB	35450A 35451A		Front Panel blank with vertical lites
C1503B	MacBeth	DDS 1	90 Meter	2.0 GB	183 KB	35470A	C1534A	Front Panel blank
C1504B	Tardis	DDS 1	90 Meter	2.0 GB Comp 4.0 GB	183 KB	35480A	C1536A	Front Panel has DCLZ
C1533A	Othello	DDS 2	120 Meter	4.0 GB Comp 8.0 GB	500 KB	C1533A	C1539A	Front Panel has DDS2
C1534A		DDS 1	90 Meter	2.0 GB	183 KB	35470A		Front Door partially Closes
C1536A	Titus	DDS 1	90 Meter	2.0 GB Comp 4.0GB	183 KB	35480A		Front Panel has DCLZ Front Door partially Closes
C1537A	Lear	DDS 3	125 Meter	12.0 GB Comp 24 GB	1 Meg	C1537A		Front Panel has DDS3
C1539A	Andronicus	DDS 2	120 Meter	4.0 GB Comp 8.0 GB	500 KB	C1533A		Front Panel has DDS2 Front Door partially Closes
C5685A	Ceaser	DDS 4	150 Meter	20.0 GB Comp 40.0 GB	500 KB	C5683A		Front Panel has DDS4

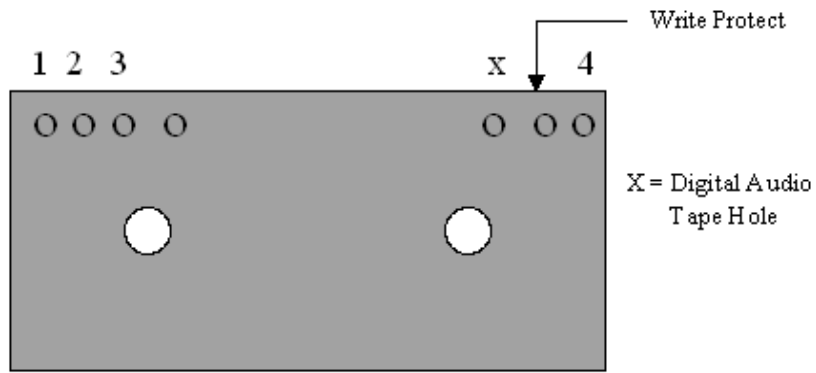
SCSI DDS AUTOLOADERS

Int. Tape Model No.	Ext. Model	Format	Max Tape	Capacity	Software Id	Replaced by	Notes
C1533A	C1560B	DDS 2 Auto	120 Meter Qty 6	24 GB Comp 48 GB	C1533A ** C1553A **		Front Panel has Model 6400 48 AL
C1537A	C5648A	DDS 3 Auto	125 Meter Qty 6	72GB Comp 144GB	C1537A *** C5648A ***		Front Panel has Model 6400 144 AL
C5683A	C5715A C5716A C7437A	DDS 4 Auto	150 Meter Qty 6	120GB Comp 240GB	C5683A		

** ID depends upon the setting of the mode "Option" switch in the rear. Position 6 IDs as C1533A only.
Position 7 will ID as C1533A for R/W mech and C1553A for the auto-changer

*** ID depends upon the setting of the mode "Option" switch in the rear. Position 6 IDs as C1537A only.
Position 7 will ID as C1537A for R/W mech and C5948A for the auto-changer

DDS CARTRIDGE SWITCH DECODING

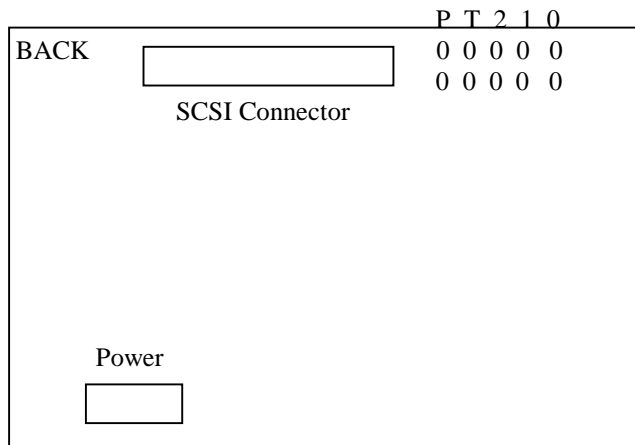


Tape Type	Hole 1	Hole 2	Hole 3	Hole 4
60 m DSS 1	0	0	0	0
90 m DSS 1	0	1	0	0
120 m DSS 2	1	0	0	0
125 m DSS 3	1	0	1	0
Cleaning Tape	0	0	1	0

Notes

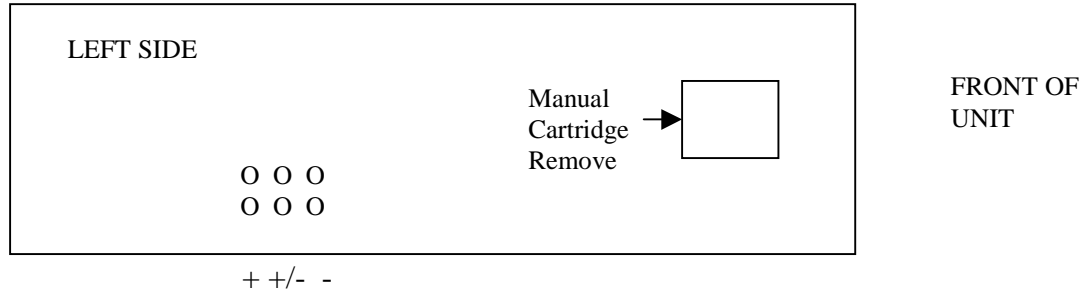
1	The holes in the base of the tape identify the type of tape. An 'open' hole equals 1 and a 'closed' hole equals 0.
2	The Write Protect hole is switch-able by sliding a tab.
3	The Datum holes are used only to mechanically align the tape in the drive. There are two additional datum holes beneath the sliding cover.
4	Hole 4 was intended for pre-recorded DAT audio cassettes not used

C15X2A ADDRESS SWITCH CONFIGURATION



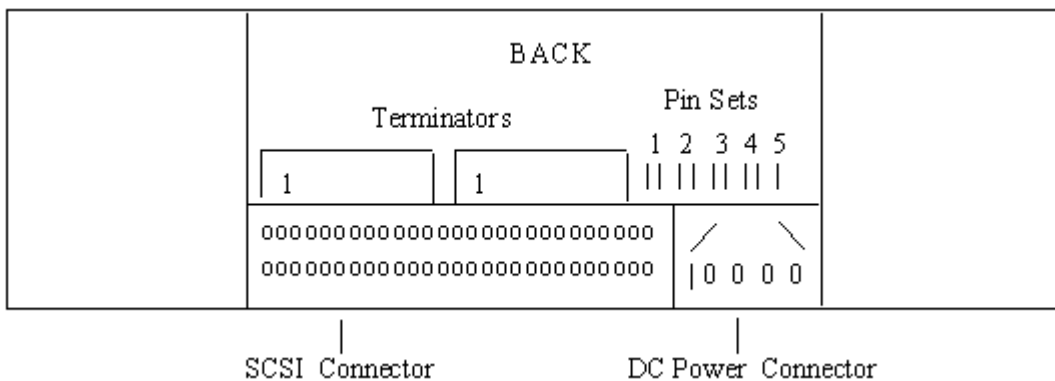
PARITY	0	DISABLE
	1	ENABLE
TERMINATION	0	DISABLE
	1	ENABLE
SCSI ADDRESS		2 1 0
	0	0 0 0
	1	0 0 1
	2	0 1 0
	3	0 1 1
	4	1 0 0
	5	1 0 1
	6	1 1 0
Reserved for Host Controller	7	1 1 1

C15X1A/X2A ORIENTATION SWITCH



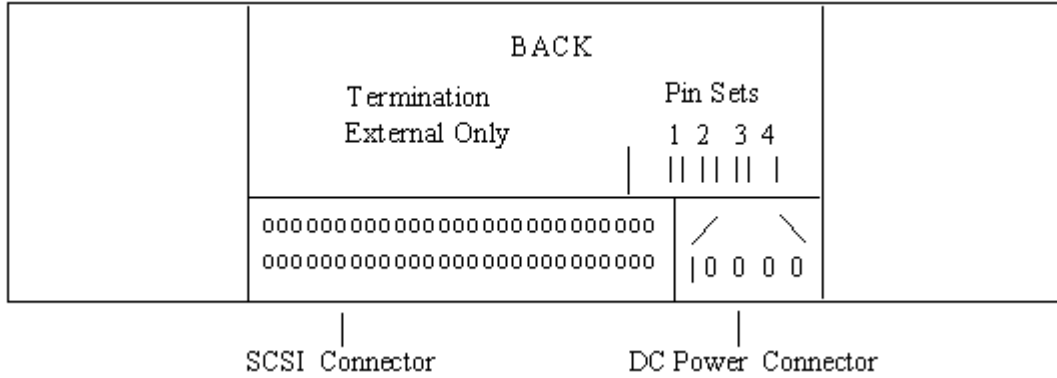
- + Vertical mounting, eject button down
- +/- Horizontal mounting
- Vertical mounting, eject button up

C1503B/04B/33A/37A/39A ADDRESS JUMPER CONFIGURATION



Pin Set	Identification and Use
1	Termination Power
2,3,4	SCSI Address Pins To set address, the pin pair is jumpered together. For example, to set address of the unit to 1, pin set 4 would be jumpered together and pin sets 2 and 3 would remain open. Note: Address 7 is reserved for SCSI host controller.
5	No Connection

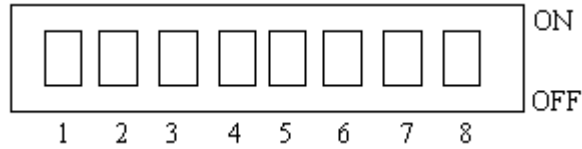
C1534/36A ADDRESS JUMPER CONFIGURATION



<u>Pin Set</u>	<u>Identification and Use</u>
1,2,3	SCSI Address Pins To set address, the pin pair is jumpered together. For example, to set address of the unit to 1, pin set 3 would be jumpered together and pin sets 1 and 2 would remain open. Note: Address 7 is reserved for SCSI host controller.
4	No Connection
Note:	Termination power is permanently enabled on these units.

C1503B, C1504B, C1520B and C1521B MODE SWITCH SETTINGS

Located on the Bottom of Mechanism



C1503X/C1520B SWITCH SETTING AND DEFINITIONS

Exchange Mech P/N C1503-69201

Switch (s)	Firmware Revision	Position
Sw 1 & 2	All	Set to 1 (ON)
Sw 3 thru 8	Firmware Rev 9.47 and Below	All Set to 1 (ON)
	Firmware Rev 10.7 and Higher	Media Recognition disabled. Sw3 thru 8 set to 1 (ON)
		Media Recognition enabled. Sw3 set to 0 (OFF) Sw5 thru 8 set to 1 (ON)

C1504X/C1521B SWITCH SETTING AND DEFINITIONS

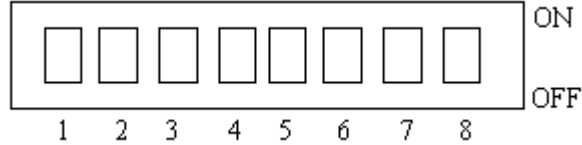
Exchange Mech P/N C1504-69201

Switch (s)	Firmware Revision	Position
Sw 1 & 2	All	Sw1 set to 0, Sw2 set to 0 Compression disabled, No Host control.
		Sw1 set to 0, Sw2 set to 1 Compression disabled, Host control.
		Sw1 set to 1, Sw2 set to 0 Compression enabled, No Host control.
		Sw1 set to 1, Sw2 set to 1 Compression enabled, Host control.
Sw 3 thru 8	Firmware Rev 9.49 and Below	All Set to 1 (ON)
	Firmware Rev 10.7 and Higher	Media Recognition disabled. Sw3 thru 8 set to 1 (ON)
		Media Recognition enabled. Sw3 set to 0 (OFF) Sw5 thru 8 set to 1 (ON)

C1533A/34A/36A/37A/39A MODE SWITCH SETTINGS
C1553A/57A/60B/62B MODE SWITCH SETTINGS

Located on the Bottom of Mechanism

C1534A Switch Setting and Definitions



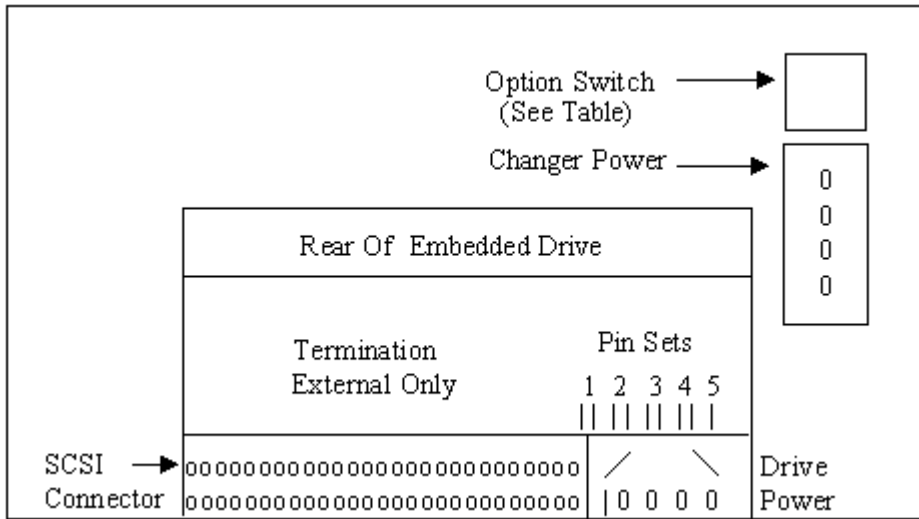
Switch (s)	Firmware Revision	Position
Sw 1 & 2	All	Set to 1 (ON)
Sw3 thru 8	All	Media Recognition disabled. Sw3 thru 8 set to 1(ON)
		Media Recognition enabled. Sw3 set to 0 (OFF) Sw5 thru 8 set to 1(ON)

C1533A/C1536A/C1537A/C1539A/C156XB SWITCH SETTING AND DEFINITIONS

Exchange Mech P/N C1533-69203
Exchange Mech P/N C1536-69203
Exchange Mech P/N C1537-69201
Exchange Mech P/N C1539-69201
Exchange Mech P/N C1560-69301

Switch(s)	Firmware Revision	Position
Sw 1 & 2	All	Sw1 set to 0, Sw2 set to 0 Compression disabled, No Host Control
		Sw1 set to 0, Sw2 set to 1 Compression disabled, Host Control
		Sw1 set to 1, Sw2 set to 0 Compression enabled, No Host Control
		Sw1 set to 1, Sw2 set to 1 Compression enabled, Host Control
Sw 3 thru 8	All	Media Recognition disabled. Sw3 thru 8 set to 1 (ON)
		Media Recognition enabled Sw 3 set 0 (OFF) Sw 5 thru 8 set to 1 (ON)

C1553/57A OPTION SWITCH and ADDRESS JUMPER LOCATION



<u>Identification and Use</u>	
1	Termination Power
2,3,4	SCSI Address Pins
	To set address, the pin pair is jumpered together. For example, to set address of the unit to 1, pin set 4 would be jumpered together and pin sets 2 and 3 would remain open. Note: Address 7 is reserved for SCSI host controller.
5	No Connection

A3400A/A3716A & C156XB ADDRESS and OPTION SWITCH LOCATION

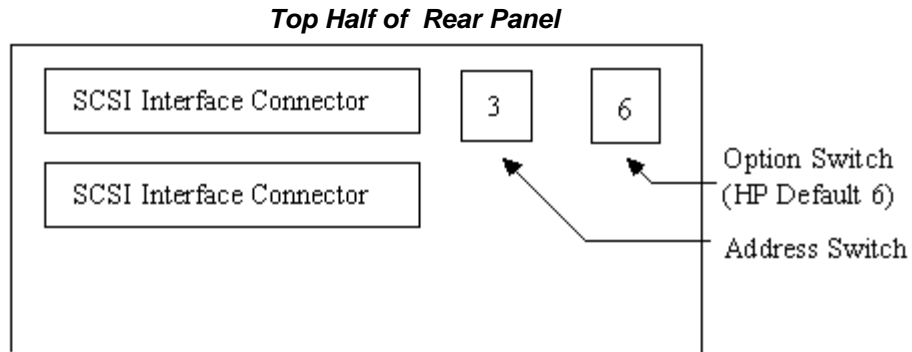


TABLE of A3400A and C1560B SWITCH SETTINGS/MEANING

The option switch is binary-coded-hexadecimal (the OEM mechanism has a socketed DIP switch at the rear, which is brought out to the back panel on the stand-alone model.) These are the current settings.

Switch Setting	System	Auto. Stack	Auto Eject	Resequencing Stacker Mode	LUN 1 TUR	LUN 0 Inquiry
1	Series 900	enabled	after last cartridge	disabled	GOOD after POST **	C1553A ****
2 thru 4	Reserved					
5	SUN	disabled	none	enabled	GOOD after mag census	C1553A
6	Series 800	disabled	none	enabled	GOOD after mag census	C1533A ***
7	Series 700	disabled	none	enabled	GOOD after mag census	C1553A
8 thru F	Reserved					

**	POST (Power On Self-test)
***	800 Systems 9.04 without patch PHKL_4906 or higher require an INQUIRY of C1533A, thus the switch must be in position "6".
****	800 Systems 9.04 with patch PHKL_4906 or higher require an INQUIRY of C1553A, thus the switch must be in position "1".

TABLE of A3716A SWITCH SETTINGS/MEANING

Switch Setting	System	System Interface	Auto. Stack	Auto Eject	Resequencing Stacker Mode	LUN 1 TUR	LUN 0 Inquiry
6	Series 800	NIO	enabled	after last cartridge	disabled	GOOD after POST	C1537A
6	Series 900	ALL	enabled	after last cartridge	disabled	GOOD after POST	C1537A
7	Series 700	NIO	disabled	none	enabled	GOOD after mag census	C1557A
7	Series 800	ALL	disabled	none	enabled	GOOD after mag census	C1557A

TABLE of C1553A OPTION SWITCH SETTINGS

Physical Switch Position				Host use	See Note
4	3	2	1		
OFF	OFF	OFF	ON	1h	
OFF	ON	OFF	ON	5h	
OFF	ON	ON	OFF	6h Series 800	
OFF	ON	ON	ON	7h Series 700	

Note: The 1h through Fh switch setting results are described in the previous A3400A/C156XB table

A3400A, A3716A, C156XB, and C571XA MAGAZINE REVISIONS

Revision A:	No identification holes, no dot on the library case card insert. This revision has been know to cause X-motion jams (error 93)
Revision B:	Identification holes in plastic wall that connects slot 1 and 4. See diagram. Also dot printed on the library case card insert. Bottom right hand corner of spine.
Revision C:	Same as revision b, but with extra manufacturing date code molded into the plastic wall. Dot replaced by "c" on library spline.

MAGAZINE REPRESENTATION

Slot 1	0
Slot 2	0
Slot 3	Looking into slot 1

C15X1A and C15X2A DISPLAYS

C15X1A and C15X2A Display for Non-Write Protected Cassettes

Lights		Meaning	
Top Cassette	Bottom Drive	HPIB C1501A & C1511A	SCSI C1502A & C1512A
OFF	OFF	No Cassette Present or no power	No Cassette Present or no power
OFF	Flashing Green	HPIB/DDS Activity, no Cassette	SCSI/DDS Activity, no Cassette
Pulse Green	Pulse Green	Loading or Unloading	Loading or Unloading
Steady Green	OFF	Cassette Loaded & Drive Off-line	Cassette Loaded
Steady Green	Flashing Green	HPIB/DDS Activity, Cassette loaded	SCSI/DDS Activity, Cassette Loaded
Steady Green	Steady Green	Cassette Loaded & Drive On-line	Cassette Loaded & Drive On-line

C15X1A and C15X2A Display for Write Protected Cassettes

Lights		Meaning
Top Cassette	Bottom Drive	
Pulse Yellow	Pulse Green	Loading or Unloading a Write Protected Cassette
Steady Yellow	OFF	Write Protected Cassette - Loaded and Off-line
Steady Yellow	Flash Green	Write Protected Cassette - Bus Activity
Steady Yellow	Steady Green	Write Protected Cassette - Loaded and On-line

C15X1A and C15X2A Warning Displays

Lights		Meaning
Top Cassette	Bottom Drive	
Green 4.5s On 0.5s Off	OFF	Caution Signal, Tape Driving doing Retries, Insert Cleaning Cartridge
Steady Yellow	Steady Yellow	High Humidity Note 1
3 Yellow Pulses	Steady Yellow	Possible Interface PCA Note 2
2 Yellow Pulses	Steady Yellow	Possible Buffer PCA Note 2
1 Yellow Pulse	Steady Yellow	Possible Tape Drive Mechanism Note 2

Note 1 = Humidity Warning - when high humidity detected, all commands to unit are aborted and tape is unthreaded to prevent tape and head damage

HPIB - When acceptable level reached, tape loaded. Must put on-line.

SCSI - When acceptable level reached, drive must be reset.

Note 2 = Each pulse on for .25 second, off for .25 second. Sequence repeated every 1.5 seconds.

C1503X/20X and C1504X/21X STATUS DISPLAY

Read/ Write States:

Lights		Meaning
Cassette	Drive	
Pulse Green	Pulse Green	Cassette Loading or Unloading
Steady Green	Steady Green	Cassette Loaded and Drive On-line
Steady Green	Pulse Green	Cassette Loaded and Activity Occurring
Steady Green	OFF	Cassette Loaded and Drive Off-line

Write-Protected States:

Lights		Meaning
Cassette	Drive	
Pulse Amber	Pulse Green	Cassette Loading or Unloading
Steady Amber	Steady Green	Cassette Loaded and Drive On-line
Steady Amber	Pulse Green	Cassette Loaded and Activity Occurring
Steady Amber	OFF	Cassette Loaded and Drive Off-line

Error States:

Lights		Meaning
Cassette	Drive	
Steady Green	Pulse Green	Media Wear (Caution)
	Pulse Amber	Insert Cleaning Cartridge
Steady Amber	Steady Amber	High Humidity/No SCSI Termination
Pulse Amber	Pulse Amber	Self-test (normal)
Pulse Amber	Steady Amber	Self-test (failure)

C1533/34/36/37/39A DDS LIGHT SEQUENCE and MEANING

Tape LED	Clean/Attention Led	Meaning
Flash Green	OFF	Cassette Loading or Unloading
Fast Flash Green	OFF	Cassette Loaded and Activity Occurring
Green	OFF	Cassette Loaded and Drive Ready
Any	Flash Amber	Cleaning Needed and Drive Ready
Any	Amber	Error Condition
Flash Green	OFF	Self-test in progress

A3400A, A3716A, C1560X , C1562X and C571XA FRONT PANEL LCD CODES

LCD Display	Error Code	Description	Your Notes
8	08	Z Jam Pulling In	
9	09	Z Jam Reverse Loading	
10	0A	Z Jam Pushing Out	
11	0B	Z Jam Starting Unload	
12	0C	Z Jam Unloading	
13	0D	Z Jam Diagnostic	
16	10	Z Time Out Completing Load	
17	11	Z Time Out Loading Magazine	
18	12	Z Time Out Pulling In	
19	13	Z Time Out Starting Load	
20	14	Z Time Out Unloading Magazine	
21	15	Z Time Out Diagnostic	
24	18	Magazine Not Loading	
25	19	Magazine Reinserted	
32	20	R Jam Leaving Home	
33	21	R Jam Moving Away From Home	
34	22	R Jam Turning Away	
35	23	R Jam Leaving Away	
36	24	R Jam Moving Away From Away	
37	25	R Jam Turning Home	
38	26	R Jam Recovering Position	
40	28	R Time Out Leaving Home	
41	29	Unexpected Home R Switch	
42	2A	R Time Out Turning Away	
43	2B	R Time Out Leaving Away	
44	2C	Unexpected Away R Switch	
45	2D	R Time Out Turning Home	
46	2E	R Time Out Recovering Position	
48	30	Y Time Out Power On	
49	31	Y Time Out Going Up To Home	
50	32	Y Time Out Going Up	
51	33	Y Time Out Going Up To Slot	
52	34	Y Time Out Going Up With Cartridge	
53	35	Y Time Out Going Up To Slot With Cartridge	
54	36	Y Time Out Leaving Door Open	
55	37	Y Time Out Closing Door	
56	38	Y Jam Power On	
57	39	Y Jam Going Up To Home	
58	3A	Y Jam Going Up	
59	3B	Y Jam Going Up To Slot	
60	3C	Y Jam Going Up With Cartridge	
61	3D	Y Jam Going Up To Slot With Cartridge	
62	3E	Y Jam Leaving Door Open	
63	3F	Y Jam Closing Door	
64	40	Y Jam Going Down To Home	
65	41	Y Jam Going Down	
66	42	Y Jam Going Down To Slot	
67	43	Y Jam Going Down With Cartridge	
68	44	Y Jam Going Down To Slot With Cartridge	
69	45	Y Jam Going Below Home	

70	46	Y Jam Going Down To Door	
71	47	Y Jam Opening Door	
72	48	X Jam Looking For Slot	
73	49	X Jam Moving In With Cartridge	
74	4A	X Jam Moving In With Cartridge Picker Open	
75	4B	X Jam Moving In Without Cartridge	
76	4C	X Jam Moving In Without Cartridge Picker Open	
77	4D	X Jam Moving Out Without Cartridge	
78	4E	X Jam Moving Out Without Cartridge Picker Closed	
79	4F	X Jam Moving Out With Cartridge	
80	50	X Time Out Looking For Slot	
81	51	X Time Out Moving In With Cartridge	
82	52	X Time Out Moving In With Cartridge Picker Open	
83	53	X Time Out Moving In Without Cartridge	
84	54	X Time Out Moving In Without Cartridge Picker Open	
85	55	X Time Out Moving Out Without Cartridge	
86	56	X Time Out Moving Out Without Cartridge Picker Closed	
87	57	X Time Out Moving Out With Cartridge	
88	58	No Cartridge On Platform At Home	
89	59	No Cartridge On Platform At Door Open	
90	5A	No Cartridge On Platform At Completion	
91	5B	Unexpected No Cartridge On Platform	
92	5C	No Cartridge In Magazine	
93	5D	Already On Platform At Start Of Load	
96	60	Cartridge On Platform At Home	
97	61	Cartridge On Platform At Door Open	
98	62	Cartridge On Platform At Completion	
99	63	Unexpected Cartridge On Platform	
100	64	Cartridge Still In Picker	
101	65	Cartridge On Platform And In Drive	
104	68	Door Open After Load	
105	69	Locked Door Open	
106	6A	Door Did Not Close	
107	6B	Lock Broken	
112	70	Cartridge Dropped On X Motion	
113	71	Cartridge Dropped On Y Up	
114	72	Cartridge Dropped On Y Up To Slot	
115	73	Cartridge Dropped On Y Down	
116	74	Cartridge Dropped On Y Down To Slot	
117	75	Cartridge Dropped On Unload	
120	78	Premature Ejection	
121	79	Drive Did Not Induct	
128	80	X Jam Approaching Door Open Without Cartridge	
129	81	X Jam Approaching Door Open With Cartridge	
130	82	X Jam Leaving Cartridge	
131	83	X Jam Looking For No Slot	
132	84	X Jam Pushing Cartridge	
133	85	R Retry Failed Towards Home	
134	86	R Retry Failed Towards Away	
136	88	X Time Out Approaching Door Open Without Cartridge	
137	89	X Time Out Approaching Door Open With Cartridge	
138	8A	X Time Out Looking For No Slot	
139	8B	X Time Out Pushing Cartridge	
140	8C	X Time Out Retrying Initialization	
141	8D	R Retry Failed Away From Home	

142	8E	R Retry Failed Away From Away	
144	90	Diag Sensor Test Inactive	
152	98	Y Time Out Going Down To Home	
153	99	Y Time Out Going Down	
154	9A	Y Time Out Going Down To Slot	
155	9B	Y Time Out Going Down With Cartridge	
156	9C	Y Time Out Going Down To Slot With Cartridge	
157	9D	Y Time Out Going Below Home	
158	9E	Y Time Out Going Down To Door	
159	9F	Y Time Out Opening Door	
160	A0	Cartridge Pushed Into Drive	
161	A1	Unload Pushed Cartridge Into Drive	
168	A8	Stuck In Drive	
169	A9	Stuck In Drive After Unload	
176	B0	Door Did Not Open	
184	B8	Illegal Opcode Or Insufficient Parameters	
192	C0	Magazine Not Present	
200	C8	Cartridge In Drive	
208	D0	Magazine Slot Full	
216	D8	Unknown log	
224	E0	Illegal Magazine Slot	
232	E8	Magazine Slot Empty	
240	F0	Not In Diagnostic Mode	
248	F8	Aborted Command	

A3400A, A3716A, C1560X , C1562Xand C571XA MOVEMENT AXIS DESCRIPTION

The mechanical errors reference four different motion activities R, X, Y, and Z. These are as follows:	
R.	Rotation of the magazine to provide picker access to both sides of the magazine.
X.	Horizontal motion on the Read/Write mechanism plane.
Y.	Vertical up/down motion moving the cartridge from the magazine plane to the Read/Write mechanism plane.
Z.	Horizontal motion on the magazine plane. Both moving cartridges into and out of the magazine and unloading the magazine from unit.

DDS MEDIA and DRIVE COMPATIBILITY

Format	Models	Tape Supported				
		60m	90m	120m	125m	150m
DDS 1	1300H/S (C15X1A/C15X2A)	Yes	No	No	No	No
	2000 (C1503X/C1520X)	Yes	Yes	No	No	No
	2000DC (C1504X/C1521X)	Yes	Yes	No	No	No
DDS 2	4000DC (C1533A/C156XB) **	Yes	Yes	Yes	No	No
DDS 3	12000DC (C1537A) ***	Yes	Yes	Yes	Yes	No
DDS 4	XXXXXDC (C5683A) ***	Yes	Yes	Yes	Yes	Yes

**	60 and 90 meter cartridges are automatically written in DDS 1 format. 120 meter cartridges are automatically written in DDS 2 format.
***	60 & 90 meter cartridges are automatically written in DDS 1 format. 120 meter cartridges are automatically written in DDS 2 format. 125 meter cartridges are automatically written in DDS 3 format. 150 meter cartridges are automatically written in DDS 4 format.

DDS Part Number/Size/Verse Color

Part Number	Size Meter	Color
92283A*	60	Red
92283B*	90	Yellow
92300A*	120	Green
C1517A*	125	Orange
C5718A#	150	??

NOTES:

* These product numbers are for a box of 5 DDS tapes

This Product number is for a single DDS 4 tape

MPEiX 5.0 COMPRESSION CONTROL FOR DDS TAPE UNITS.

C1504B, C1521B, C1530A, C1533A, C1536A, C1537A, & C1539A

The program 'devctrl.mpexl.telesup' will allow a user of a compression DDS drive (C1504B, C1521B, C1530B and C1533A) to toggle hardware data compression, and if eject is enabled, the tape will automatically be ejected after rewinding. The following will work provided the 8 position dip switch on the bottom of the mechanism is set correctly (All On).

Syntax:	devctrl.mpexl.telesup [ldev] [compression=[enable disable]] [eject=[enable disable]]
Example:	To enable H/W compression on Ldev 7: devctrl.mpexl.telesup 7 enable
Example:	To enable auto-eject on ldev 7 and not change compression: devctrl.mpexl.telesup 7 eject=enable
Example:	To enable auto-eject and disable compression on ldev 7: devctrl.mpeexl.telesup 7 disable enable
	NOTE The key words (compression and eject) are not needed, but if they are not used, the order is interpreted as compression first, eject second.
Other Examples:	
	***** * To disable H/W compression on a C1521B DDS ldev 15 * *****
	:devctrl.mpexl.telesup 15 disable Device = 15, Compression = disable, Eject = Nochange END OF PROGRAM
	***** * To enable H/W compression on a C1521B DDS ldev 15 * *****
	devctrl.mpexl.telesup 15 enable Device = 15, Compression = enable, Eject = Nochange END OF PROGRAM

FBACKUP TUNING FOR DDS COMPRESSION PERFORMANCE

If you have a customer who has upgraded from a 2 Gigabyte DDS to a 2 Gigabyte Data Compression DDS unit and now finds that the backup time has increased (for example, from 5 hours to 8 hours), yet is still able to get all data on one tape as opposed to two tapes, modifying the following values in /usr/sam/config/br/fbackup_config may increase the performance and decrease the backup time.

Parm	To	From
blocksperrecord	128	32
checkpointfreq	256	32

Note the default values are set by SAM and are tuned for QIC and not DDS

OERSTED VALUES REQUIRED TO SECURITY ERASE TAPE

OERSTED (OE)	Defined as the centimeter-gram-second electromagnetic unit of magnetic intensity, equal to the magnetic intensity one centimeter from a unit magnetic pole. [After Hans Christian Oersted (1777-1851). Danish physicist]
*NOTE *	These values are the same regardless of the brand name.
If the data on tape is classified* a TYPE 2 erasure is required the cycle time is 22 seconds and 750 Oersteds takes it down 90 db.	
ELSE normal data erasure requires:	
	DDS media (4mm)-----1500 Oersteds
	DLT media-----1850 Oersteds
	Exabyte media (8mm)-----1450 Oersteds
	9" Open reel media----- 290-320 Oersteds
	3480 Cartridges-----550 Oersteds
* For CLASSIFIED data, Ultimately destroy the media 2 nd , Purchase a DEGAUSSER 3 rd , Follow above steps for TYPE erasure.	

PROCEDURE TO CALCULATE DDS DUMP COMMAND PARAMETERS

To calculate parameters for the “*dump*” command used with the DDS tape, use the following example:

	/etc	/dump	Odsf	1600	72701	/dev	/rmt	/0m	/		
			^	^	^		^		^		
										Root File System	
							Device file name for DDS drive				
					Size of dump tape (feet) **						
				Density of dump device file (BPI)							
			Dump level, density follows, size follows, device follows								
** To Calculate DDS dump tape size (feet), use the following formula:											
			Capacity of DAT in Bytes								

			(12 inches/foot * (density-of-tape [bits-per-inch]))								
Example 1	Using /dev/rmt/0m (1600 BPI device file) to a 1.3 Gbyte DDS tape (60m):										
			(1024 * 1024 * 1024 * 1.3)								
			----- = 72701 feet								
			12 * 1600								
	Example command to do a dump of a file system would be:										
	/etc/dump Odsf 1600 72701 /dev/rmt/0m /filesystemname										
Example 2	Using /dev/rmt/0m (1600 BPI device file) to a 2.0 Gbyte DDS tape (90m):										
			(1024 * 1024 * 1024 * 2.0)								
			----- = 111849 feet								
			12 * 1600								
	Example command to do a dump of a file system would be:										
	/etc/dump Odsf 1600 111849 /dev/rmt/0m /filesystemname										

For ease the following formula can be used											
	For a 1.3 DDS1 60m Tape				1.3GB / (12 * 1600) = 67709 feet Uncompressed						
					1.3GB / (12 * 6250) = 17333 feet Compressed						
	For a 2.0 DDS1 90m Tape				2.0GB / (12 * 1600) = 104167 feet Uncompressed						
					2.0GB / (12 * 6250) = 26667 feet Compressed						
	For a 4.0 DDS2 120m Tape				4.0GB / (12 * 6250) = 53334 feet Compressed						

Model 48AL with NetWorker Troubleshooting Procedure

Product numbers A3400A, C1553A and C1560B

The information here is specific to the 48AL (product numbers A3400A, C1553A and C1560B) and is incorrect for most other jukeboxes. Also, it is *important* that the HP 9000 be *shutdown* before powering up or down any device attached to its SCSI bus. NetWorker has a mount/unmount feature (*NOT* to be mistaken for HPUX command mount/unmount) that a jukebox must be NetWorker unmounted before any manual operations are performed, and a NetWorker inventory may be required after the manual operation. See Tips and Suggestions below for more specific information.

This document describes an approach to troubleshooting the attachment of a 48AL to a HP 9000 for the purpose of running “NetWorker for HP 9000”. The 48AL contains a autochanger (referenced as C1553A) and a tape drive (referenced as C1533A). The following headings will be covered below to check the entire system configuration:

Hardware Configuration

Factory DIP Switches Check

Firmware Check

Kernel and Device Driver Configuration

Device Files

Tapes

NetWorker Configuration

Tips and Suggestions

FTP Information

Hardware Configuration

It would be next to impossible that the firmware or DIP switch settings in the 48AL would be incorrect. It would more probable for something like this to appear in and after-market unit. If you have a 48AL purchased directly from HP, proceed to “Kernel and Device Driver Configuration”. To check firmware or DIP switch problem, the HPUX command “/etc/ioscan -f” is used. An “ioscan -f” for an HP 9000 series 800 with a 48AL configured correctly should look similar to:

/etc/ioscan -f

	Class	LU	H/W Path	Driver	H/W Status	S/Status
		0				
	target	-	56/52.3	bus_converter.scsi1.target	ok(0x1800202)	ok
	tape_drive	2	56/52.3.0	bus_converter.scsi1.target.tape2	ok(0x1800202)	ok
	spt	0	56/52.3.1	bus_converter.scsi1.target.spt	ok(0x8c00202)	ok
		0				

An “ioscan -f” for an HP 9000 series 700 might look like:

Class	H/W Path	Driver	H/W Status	S/W Status
graphics	0.0.0	graph3	ok(0x577)	ok
scsi	2.0.1	c700	ok(0x7071)	ok
tape-drive	2.0.1.0.0	scsitape	ok(0x1800202)	ok
disk	2.0.1.5.0	scsi	ok(0x201)	ok
disk	2.0.1.6.0	scsi	ok(0x202)	ok

The class tape_drive is the important one. Note the H/W Status number should probably be the same on your machine, for a series 700 (0x1800202) and a series 800 (0x1800202). This status number may change with the future releases of the 48AL firmware. More importantly, the H/W Status and the S/W Status should be marked “ok”.

If you see “No Driver” in the S/W Status column, then the problem is either firmware earlier than 9403, factory DIP switches in the wrong position, or missing device drivers in the kernel configuration.

Factory DIP Switches Check

Make sure the HP 9000 is shutdown. Check the DIP switches by watching the display on the 48AL just after turning it on. You should see something like the following:

```
Self Test
SCSI ID: #
    Config:###                (This is the one)
    Self Test
    Insert Mag
```

Usually one of two numbers is seen after the “Config:” either “FB6” or a “FF6”. If the “6” does not appear in either of the numbers, then the factory DIP switches are not set correctly. They should be set to 6. To gain access to the factory DIP switches on the imbedded unit (C1553A), the cover may have to be removed. On the imbedded units (C1553A), looking from the back, the DIP switches are just above the power connector. There are only 4 switches, which when correctly configured, should look like the following: *NOTE:* On the standalone drive this is the Autochanger Option switch on the back.

```
Off|On
  X |
   | X
   | X
  X |
```

Here the X represents the white end of the switch which should be pushed from one position to the other. There is also a DIP switch on the bottom of the unit that we will discuss later under the heading “Tapes”.

Firmware Check

If during power up of the 48AL, you see the following message displayed on the front panel, then the firmware is probably out-of-date:

```
fw: ##
```

Or, you do not see the “fw:...” displayed but the H/w Status column is still indicating an error. NetWorker 4.0.2 comes with an utility called “jbinfo” that will display the actual version of the firmware in the unit. (See Below to check for the correct device file parameters for the autochanger.) For example:

```
mike:/usr/networker/bin # ./jbinfo /dev/sjid1u1
```

```
Vendor: HP  
Product: C1553A  
Version: 9403
```

```
Medium Transport Element Address: 0  
Number of Medium Transport Element: 0  
First Storage Element Address: 2  
Number of Storage Elements: 6  
First Import/Export Element Address: 0  
Number of Import/Export Elements: 0  
First Data Transfer Element Address: 1  
Number of Data Transfer Elements: 1
```

You can see that the jukebox firmware “Version:” information is 9403 above and is at minimum version level. If you do not have up-to-date firmware revision, you may request it from the reseller or replace the unit. It usually comes in the form of a tape that is inserted into the 48AL and updates the firmware automatically. Networker version 3.3.2 does not have the jbinfo program.

Kernel and Device Drivers Configuration

If the H/W Status number is correct but the S/W status column is showing “No Driver”, then you need to check the */etc/conf/gen/s800* file for a series 800 or the */etc/conf/dfile* on a 700. The S800 file on a 800:

```
include spt; /* SCSI Pass through Driver 8/  
io{  
bus_converter address 56 { /* Only for bus converter systems */  
    scsi1 address 52 {  
        target address 3 {  
spt lu 0 address 1; /*Note address 1 */  
        }  
    }  
} /* Only for bus converter systems */
```

The lines for the bus_converter should only be used if there is a bus converter on your system. You can tell this from the “/etc/ioscan -f”. Otherwise, leave these lines out. The “target address 3” means that the SCSI address was set to three on the back of the 48AL. The line “spt lu 0 address 1” configures the SCSI pass-through driver to use an extended form of SCSI addressing for the autochanger. Unlike most other jukeboxes, the 48AL uses only one SCSI address.

As well for the 800 series machines, it is a good idea to remove special files that have been autoconfigured from trying to attach various hardware. This can found by doing an “/etc/ioscan -k” and the output may look like:

```
/etc/ioscan -k
```

Hardware Path	Description	Status
8.1	target	No_Hardware
8.1.0	spt	Cannot_Probe
8.2	target	No_Hardware
8.2.0	tape_drive	Cannot_Probe

For instance, from the above command, it appears that what probably happened here initially is that the S800 file above had the INCORRECT line:

```
spt lu 0 address 0; /*Wrong */
```

This would cause the spt (SCSI pass-through) driver to show up at the wrong address. The ioscan should always show the digit for the “spt” driver to be 1. In the example above, the address should have been 8.1.1. The 48AL was also at one point configured to use SCSI address 2. If you get output similar to the above ioscan you can run command:

```
rmsf -H 8.1.0
rmsf -H 8.2.0
```

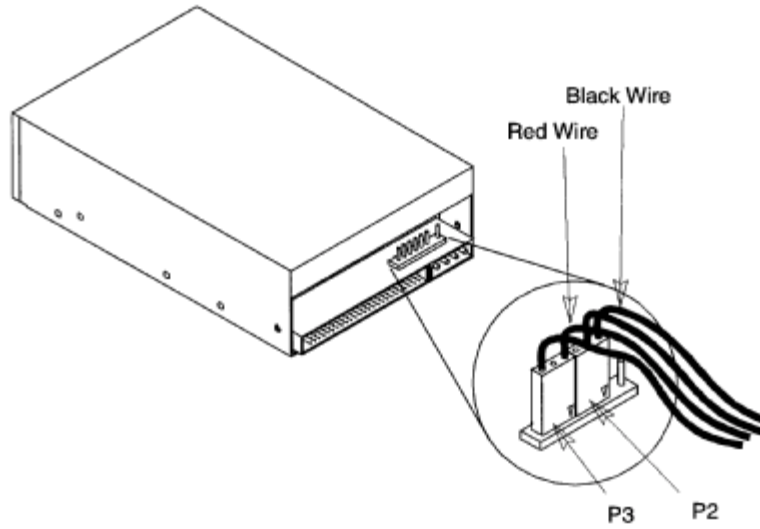
Now, after rebuilding the kernel with the correct address and rebooting the series 800, the autoconfiguration process should be correct.

On the 700, check in /etc/conf/dfile that the following drivers are installed:

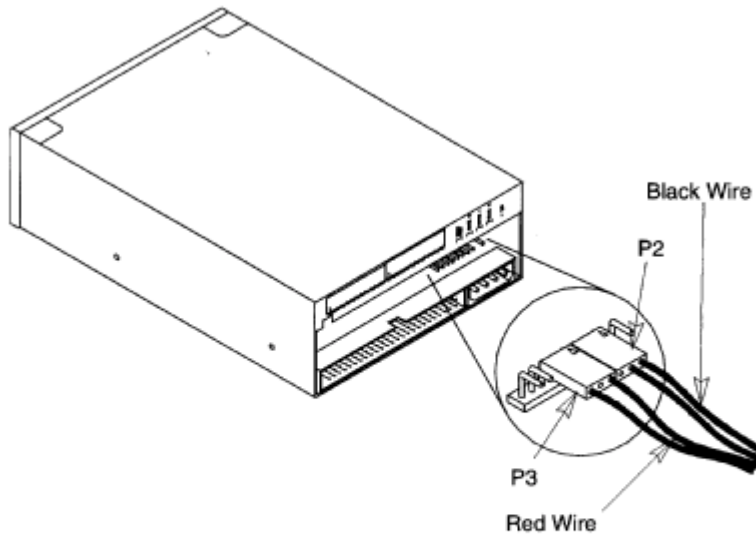
```
scsi
scsitape
sctl
```

Usually, these drivers come installed on the system

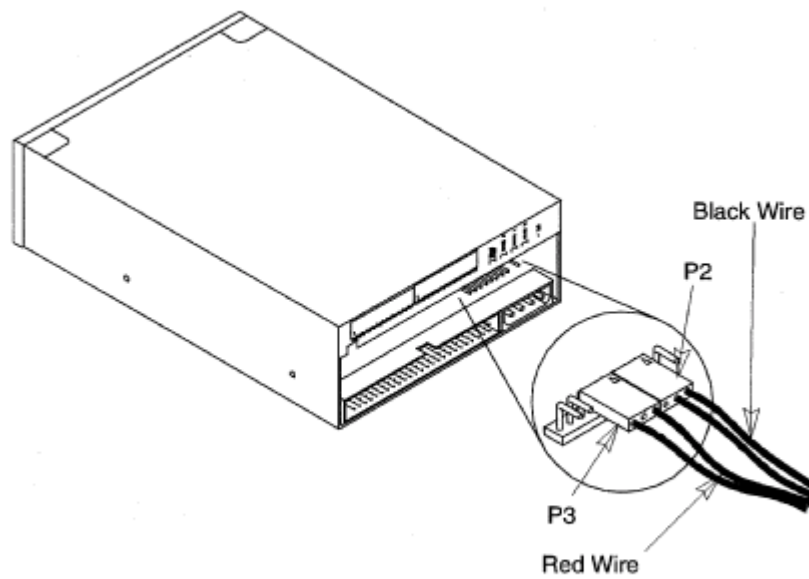
DDS C2954D/C2983A/C2984D ADDRESS CONNECTIONS



Model C2954D (HP C1536A) DDS Tape



Model C2983D (HP C1539A) DDS Tape



Model C2984A (HP C1537A) DDS Tape

Revision

Date	Description
06/29/99	Added C7429A product numbers
07/29/99	Updated Replacement parts list
10/18/99	Updated Replacement parts list and added address connections
12/13/99	Added C5715/6/7 DDS 4 auto-changer
12/30/99	Added A5558A DDS 4 in L Class
01/24/00	Added C7437A DDS 4 Auto-Loader
02/29/00	Added DDS4 Autoloader for Multi-user