



Dismantling Guide

**OPNs: MIS5600Q-10DNC, MIS5300Q-6DNC,
MIS5200Q-4DNC, MIS5100Q-3DNC, MSX6536-10R,
MSX6536-NR, MSX6518-NR, MSX6512-NR**

Rev 1.1

NOTE:

THIS HARDWARE, SOFTWARE OR TEST SUITE PRODUCT (“PRODUCT(S)”) AND ITS RELATED DOCUMENTATION ARE PROVIDED BY MELLANOX TECHNOLOGIES “AS-IS” WITH ALL FAULTS OF ANY KIND AND SOLELY FOR THE PURPOSE OF AIDING THE CUSTOMER IN TESTING APPLICATIONS THAT USE THE PRODUCTS IN DESIGNATED SOLUTIONS. THE CUSTOMER’S MANUFACTURING TEST ENVIRONMENT HAS NOT MET THE STANDARDS SET BY MELLANOX TECHNOLOGIES TO FULLY QUALIFY THE PRODUCTO(S) AND/OR THE SYSTEM USING IT. THEREFORE, MELLANOX TECHNOLOGIES CANNOT AND DOES NOT GUARANTEE OR WARRANT THAT THE PRODUCTS WILL OPERATE WITH THE HIGHEST QUALITY. ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT ARE DISCLAIMED. IN NO EVENT SHALL MELLANOX BE LIABLE TO CUSTOMER OR ANY THIRD PARTIES FOR ANY DIRECT, INDIRECT, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES OF ANY KIND (INCLUDING, BUT NOT LIMITED TO, PAYMENT FOR PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY FROM THE USE OF THE PRODUCT(S) AND RELATED DOCUMENTATION EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.



Mellanox Technologies, Inc.
350 Oakmead Parkway Suite 100
Sunnyvale, CA 94085
U.S.A.
www.mellanox.com
Tel: (408) 970-3400
Fax: (408) 970-3403

Mellanox Technologies Ltd
PO Box 586 Hermon Building
Yokneam 20692
Israel
Tel: +972-4-909-7200
Fax: +972-4-959-3245

© Copyright 2011. Mellanox Technologies. All rights reserved.

Mellanox®, BridgeX®, ConnectX®, SwitchX®, CORE-Direct®, InfiniBridge®, InfiniHost®, InfiniScale®, PhyX®, Virtual Protocol Interconnect® and Voltaire® are registered trademarks of Mellanox Technologies, Ltd.

FabricIT™, MLNX-OS™ and Unbreakable-Link™ are trademarks of Mellanox Technologies, Ltd.

All other trademarks are property of their respective owners.

Contents

Revision History	4
Preface	4
Switch OPNs	4
Policy Statement	5
Chassis Switch Systems - RoHS	5
1 Dismantling Instructions	6
1.1 General Information	6
1.2 Leaf	6
2 Extraction of the Modules	7
2.1 Extracting the Power Supply Units (PSU)	7
2.2 Extracting the Fan Units	8
2.3 Extracting all Leaf Boards.....	9
2.4 Extracting a Spine Board.....	10
2.5 Extracting the Management Modules	11
2.6 Battery Extraction	12
3 Board Extraction from the Chassis Body	13

List of Figures

Figure 1: Front and Rear View of the MIS5600	7
Figure 2: Power Cord Top Bar	7
Figure 3: Power Supply Covers.....	8
Figure 4: Power Supply Unit.....	8
Figure 5: Fan Module	9
Figure 6: Leaf Latch.....	9
Figure 7: Chassis Leaf.....	10
Figure 8: Ejector Latch	11
Figure 9: Spine Board.....	11
Figure 10: Ejector Latch	12
Figure 11: Remove Battery.....	12
Figure 12: Screws in Side.....	13

List of Tables

Table 1: Revision.....	4
Table 2: Switch OPNs for this Procedure	4

Revision History

Table 1: Revision

Revision	Date	Description
1.1	Nov. 2011	Added disassembly of the Midplane, fan boards, and power backplanes
1.0	Oct. 2010	

Preface

This manual is intended as a reference for dismantling MIS 5[6321]00 chassis switch systems and the MSX65[36, 18, 12] chassis switch systems in preparation of meeting the requirements of WEEE recycling.

Intended Audience

This manual is intended for technicians who dismantle the switch systems as a reference for WEEE recyclers.

Mellanox Technologies emphasizes the importance of carefully following all procedures described in this guide to prevent personal injury.

Switch OPNs

This document is valid for all switch OPNs listed in Table 2.

Table 2: Switch OPNs for this Procedure

MIS5600Q-10DNC	MSX6536-10R
MIS5300Q-6DNC	MSX6536-NR
MIS5200Q-4DNC	MSX6518-NR
MIS5100Q-3DNC	MSX6512-NR

Policy Statement

Mellanox Technologies recognizes the importance of developing connectivity solutions that not only enable our customers to optimize their data centers performance, but also protect the environment and ensure that future generations enjoy its bounties. Mellanox Technologies is committed, therefore, to meeting the requirements of the European Union's WEEE (waste electrical and electronic equipment) directive. The directive mandates how the materials used in electrical and electronic equipment must be disposed of.

Mellanox Technologies has worked closely with its suppliers to eliminate hazardous materials from its products. There are instances, however, where it has not proven possible to completely eliminate all hazardous materials. Consequently, all applicable products are labeled with a crossed out "wheelie" bin symbol, indicating that special care must be applied to their disposal and / or recycling.

Chassis Switch Systems - RoHS

The chassis switch systems comply with the RoHS directive under the exemption known as either RoHS-5 or RoHS-6.

Switch Systems OPN RoHS Explanation

All switch systems comply with the RoHS directive under the exemptions known as RoHS-6 or RoHS-5. The RoHS exemptions are an integral part of the OPN.

The last digit of the product part number represents the RoHS type.

For example

MSX6536-10**R** – R = RoHS-6

MIS5300Q-6DN**C** – C = RoHS-5

1 Dismantling Instructions

This document provides detailed instructions for dismantling the InfiniBand chassis switch systems. Follow the instructions in the order they are presented.

1.1 General Information

The switch system is assembled using screws, and modules with handles, snaps and latches.

To disassemble the switch system parts you will need a small Philips screwdriver and a medium slotted screwdriver. A screw gun is highly recommended as the larger chassis can have more than 300 screws.

The pictures displayed in the following pages provide visual guidance explaining how to remove the modules from the mechanical base.

Chassis switch systems are comprised of:

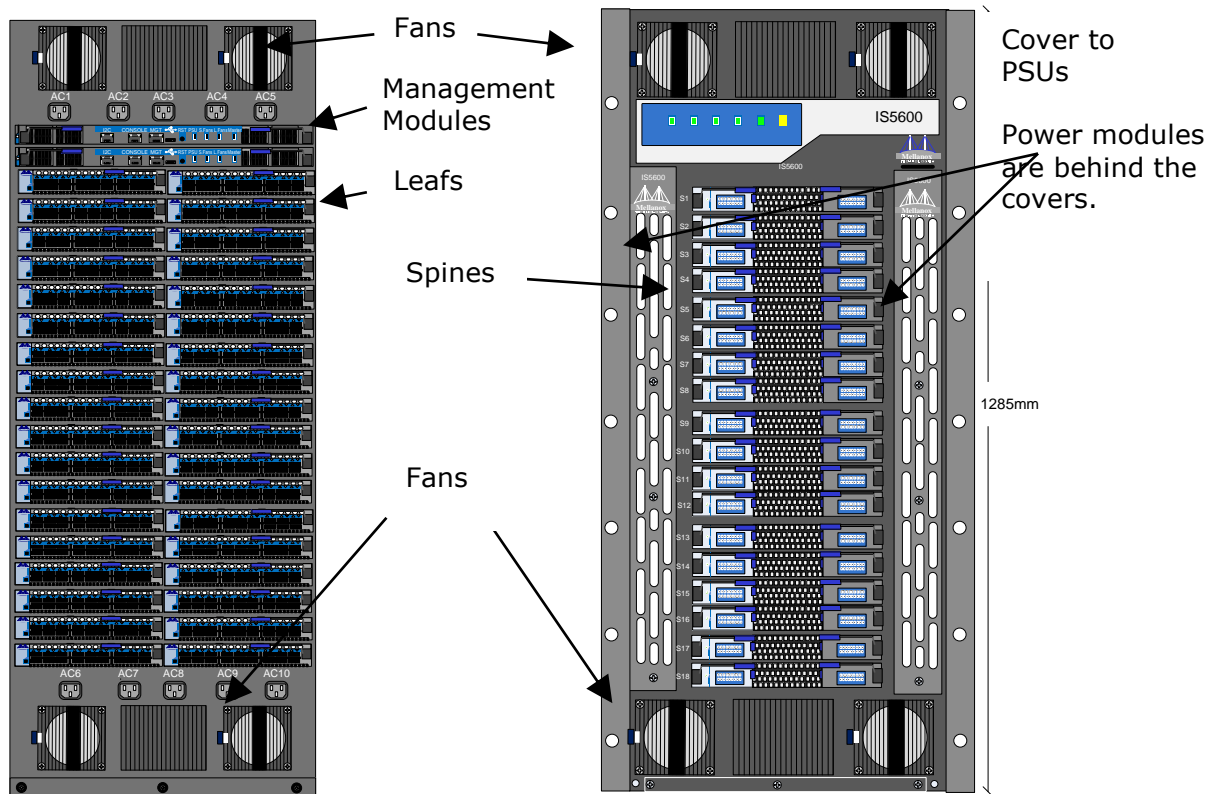
- Leaf modules located on the front side
- Spine modules located on the rear side
- Management modules
- Fan modules
- Power supply modules
- Chassis body

1.2 Leaf

There are up to 36 leaf modules located on the front side of these products.

The Leaf module is removed from the chassis using snap handles.

Figure 1: Front and Rear View of the MIS5600



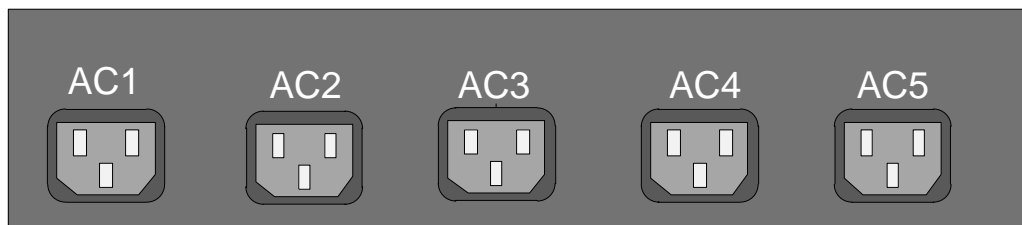
2 Extraction of the Modules

2.1 Extracting the Power Supply Units (PSU)

➤ *To extract a PSU:*

1. Remove all of the power cords from the chassis. These are on the connector side.

Figure 2: Power Cord Top Bar



2. Move around to the spine side and remove the power supply covers. Odd numbered PSUs are on the left side and even numbered PSUs are on the right side facing the spines. There are four Phillips head screws for the cover plates. See Figure 3: Power Supply Covers for the location of the PSU covers.

Figure 3: Power Supply Covers

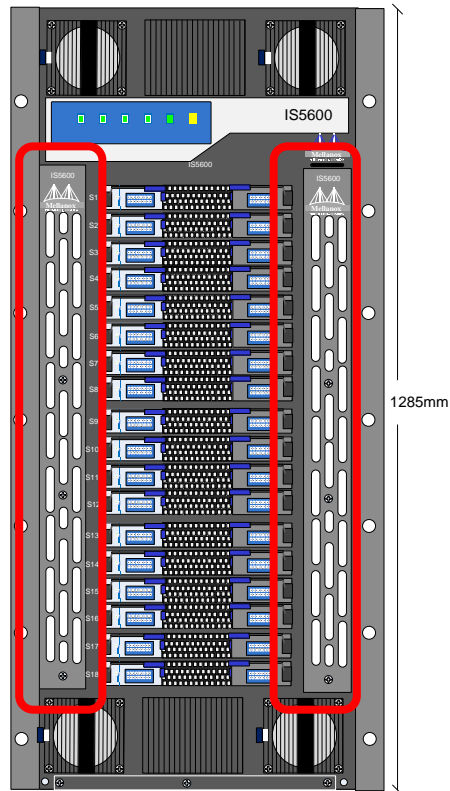
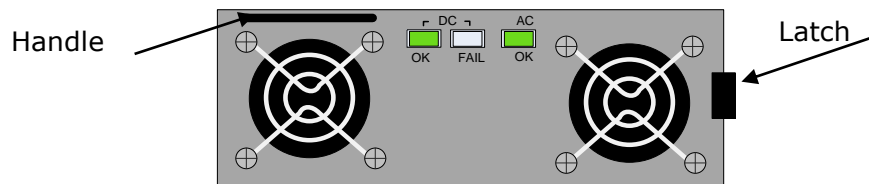


Figure 4: Power Supply Unit

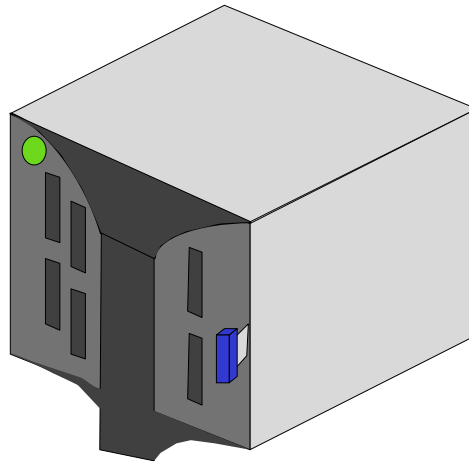


3. Grasping the handle with one hand, push the black latch release while pulling the handle outward.
4. Remove all of the PSUs.

2.2 Extracting the Fan Units

1. Push and hold the blue latch release.
2. Slowly pull out the fan module using the handle.

Figure 5: Fan Module

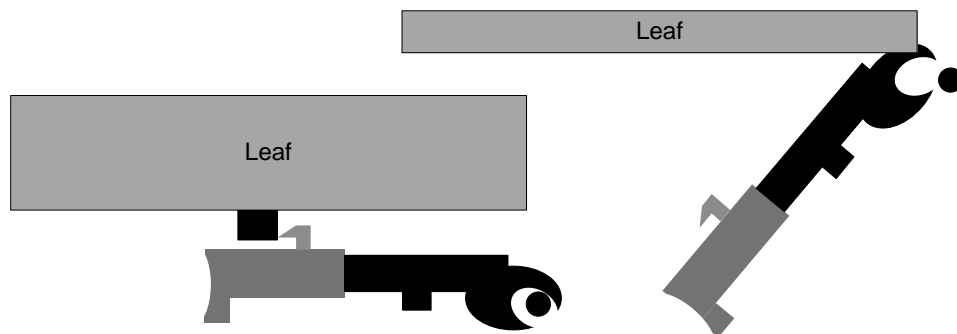


2.3 Extracting all Leaf Boards

Each leaf board has an ejector that locks the board in place and serves as a lever for seating or extracting.

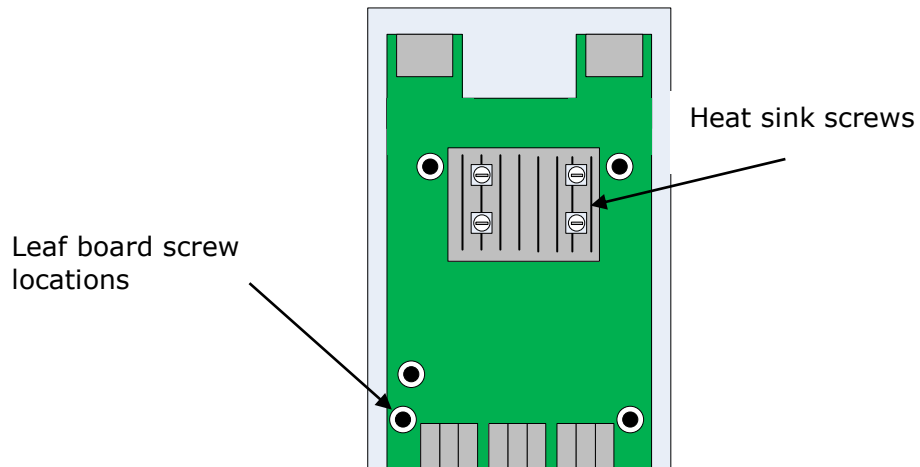
1. Disconnect all cables connected to the leaf.

Figure 6: Leaf Latch



2. Push the latch to unlock the ejector from the chassis.
3. Open the ejector until it is 45 degrees from the leaf.
4. Pull out on the leaf.
5. Remove the bottom cover.

Figure 7: Chassis Leaf



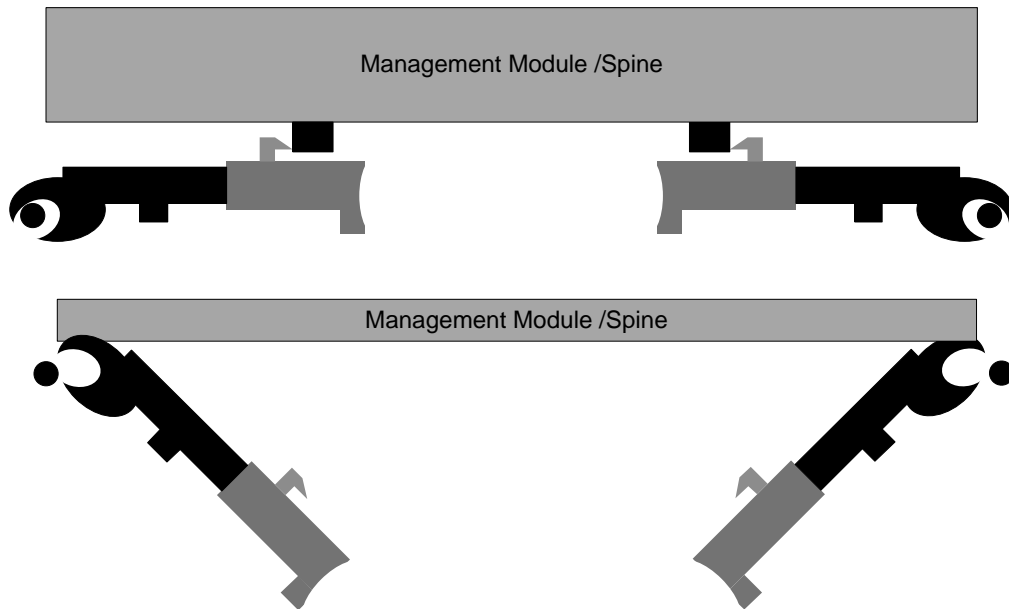
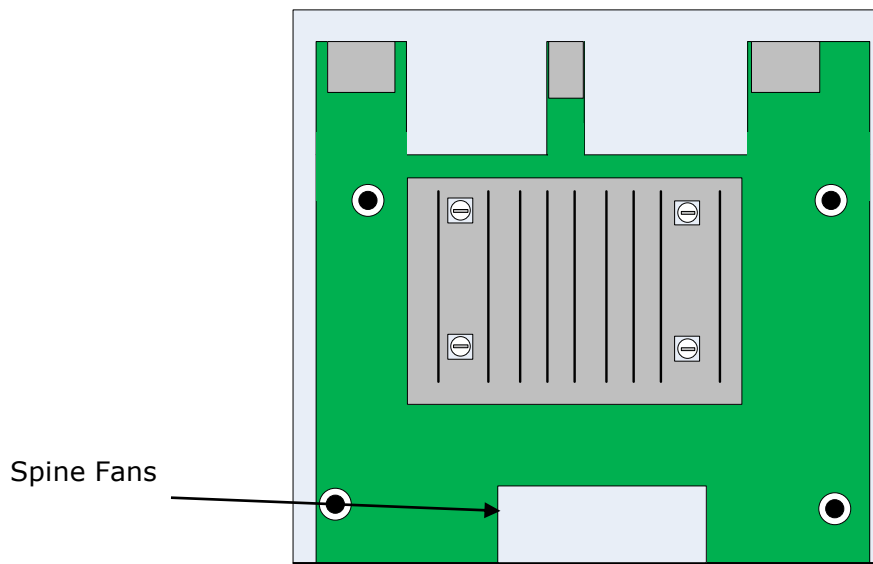
6. After the cover is removed unscrew the 5 Philips screws and remove the board from the casing.
7. Turn the board over and remove the heat sink from the board by unscrewing the 4 slotted screws and remove the heat sink from the board.

2.4 Extracting a Spine Board

The Spine modules are located on the rear side of the product.

The Spine module is removed using snap handles.

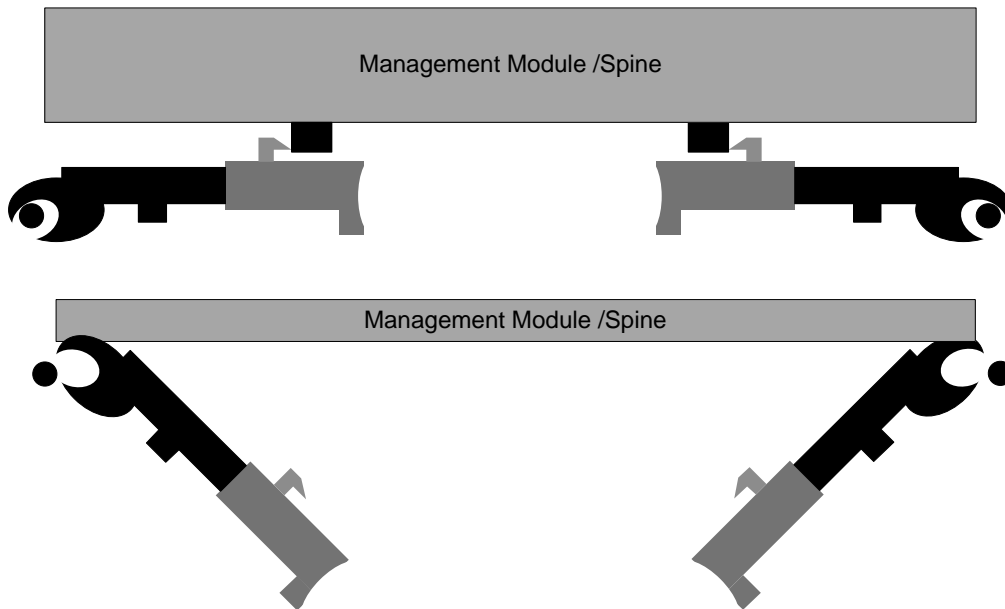
1. Push outward on the latches to unlock the ejectors from the chassis.
2. Open the ejectors until they are 45 degrees from the module.
3. Pull out on the module using both ejectors.

Figure 8: Ejector Latch**Figure 9: Spine Board**

4. Remove the bottom cover.
5. After the spine board is removed unscrew the 4 Philips screws and remove the board from the casing.
6. Remove the heat sink from the board by unscrewing the 4 slotted screws and remove the heat sink from the board.
7. Remove the spine fan module from the spine board.

2.5 Extracting the Management Modules

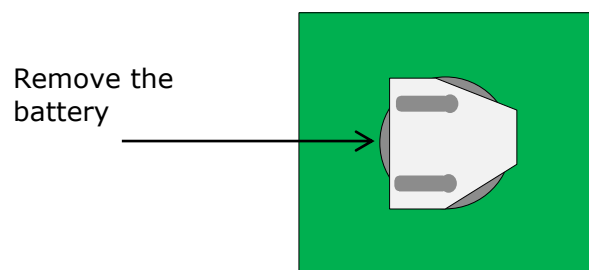
1. Push outward on the latches to unlock the ejectors from the chassis.
2. Open the ejectors until they are 45 degrees from the module.
3. Pull out on the module using both ejectors.

Figure 10: Ejector Latch

4. Remove the bottom cover.
5. After the cover is removed unscrew the 4 Philips screws and remove the board from the casing.
6. Remove the heat sink from the board by unscrewing the 4 slotted screws and remove the heat sink from the board.

2.6 Battery Extraction

In all Mellanox Management boards, there is a: COIN TYPE LITHIUM BATTERY CR1620 3V 75MA.

Figure 11: Remove Battery

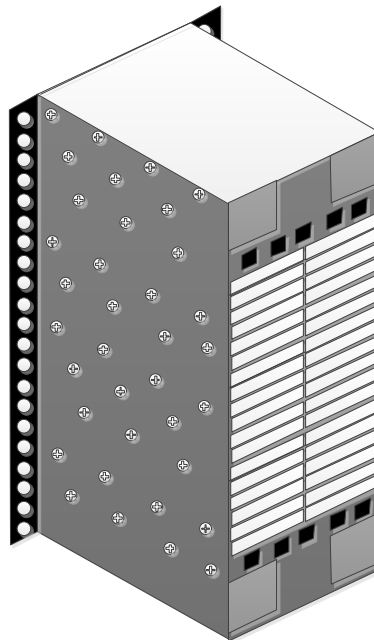
3 Board Extraction from the Chassis Body

The chassis body contains the following PC boards:

- midplane
- power backplanes; the 648 port has 4, other chassis have less power backplanes
- fan boards; the 648 port has 2, other chassis 1 fan board

1. Remove the Philips screws that hold the sides and top on.

Figure 12: Screws in Side



The 648 port chassis has ~111 screws on each side!

2. Disconnect all harnesses that are reachable.
3. Remove the top fan assembly. There are 8 screws holding it on.
4. Disconnect the 3 harnesses (1 flat and 2 power).
5. Remove the screws holding the fan board (there are also latches that need to be unlatched 2 on one side of the chassis and one on the opposite side)
6. Remove the upper fan board.
7. Disconnect all of the harnesses to the upper power bar.
8. Cut all cable ties.
9. Remove the upper power bar.
10. Remove the 8 screws holding the spine framework to the chassis.
11. They are located just above the lower fans.
12. Remove the spine framework from the chassis.

13. Once the spine framework is removed, unscrew the 4 power backplanes.

14. Unscrew the Midplane.

15. For the 648 port only unscrew and remove the lower fan board.