# Product End-of-Life Disassembly Instructions

| Product Category: Storage Enclosures |
|---|
| **Marketing Name / Model [List multiple models if applicable.]** |
| 3PAR StoreServ 8xx0A |
| |
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| |

**Purpose:** The document is intended for use by end-of-life recyclers or treatment facilities. It provides the basic instructions for the disassembly of HP products to remove components and materials requiring selective treatment, as defined by EU directive 2002/96/EC, Waste Electrical and Electronic Equipment (WEEE).

## 1.0 Items Requiring Selective Treatment

1.1 Items listed below are classified as requiring selective treatment.
1.2 Enter the quantity of items contained within the product which require selective treatment in the right column, as applicable.

| Item Description | Notes | Quantity of items included in product |
|---|---|---|
| Printed Circuit Boards (PCB) or Printed Circuit Assemblies (PCA) | With a surface greater than 10 sq cm<br>All FR-4 with brominated flame retardants | 24 |
| Batteries | All types including standard alkaline and lithium coin or button style batteries Coin in Node module; Li ion battery pack in Power Cooling Module | 4 |
| Mercury-containing components | For example, mercury in lamps, display backlights, scanner lamps, switches, batteries | 0 |
| Liquid Crystal Displays (LCD) with a surface greater than 100 sq cm | Includes background illuminated displays with gas discharge lamps | 0 |
| Cathode Ray Tubes (CRT) | | 0 |
| Capacitors / condensers (Containing PCB/PCT) | | 0 |
| Electrolytic Capacitors / Condensers measuring greater than 2.5 cm in diameter or height | | 18 |
| External electrical cables and cords | PVC insulation | 4 |
| Gas Discharge Lamps | | 0 |
| Plastics containing Brominated Flame Retardants weighing > 25 grams (not including PCBs or PCAs already listed as a separate item above) | 6 Heat sink clips; 11 connector housings; 7 misc structural parts | 46 |
| Components and parts containing toner and ink, including liquids, semi-liquids (gel/paste) and toner | Include the cartridges, print heads, tubes, vent chambers, and service stations. | 0 |
| Components and waste containing asbestos | | 0 |



PSG instructions for this template are available at EL-MF877-01

| | | |
|---|---|---|
| Components, parts and materials containing refractory ceramic fibers | | 0 |
| Components, parts and materials containing radioactive substances | | 0 |

## 2.0 Tools Required

List the type and size of the tools that would typically be used to disassemble the product to a point where components and materials requiring selective treatment can be removed.

| Tool Description | Tool Size (if applicable) |
|---|---|
| Torx Driver | T6/T10/T15 |
| Phillips Driver | #0,#1, #2 |
| Diagonal cutter | medium size |
| Pry Bar | Small |
| | |

## 3.0 Product Disassembly Process

3.1 List the basic steps that should typically be followed to remove components and materials requiring selective treatment:

1. Remove unit from System rack by removing Torx T15 mounting screws
2. Pull release handles on Drives sleds to remove Hard drives / SSD modules; separate plastics and hard drives from frame using phillps screw driver.
3. Pull release handle on Node(s) to remove from Drive bay. Remove heat pipe and/or heat sinks using T10 Torx driver; Remove PCBA from Frame.
4. Remove coin cell battery from node board.
5. Remove Power Cooling Modules by depressing on the latch, the unit will slide out of the drive bay. Remove Lithium Ion battery pack.(see step 6) Uses Phillips #1 to remove screws on the enclosure, remove PCBAs from housing, remove electrolytic capacitors 1 4cm high; 10, 2.4 cm 10, 1cm.
6. Remove cover of lithium ion battery pack, using phillips #1, remove battery pack from enclosure; do not short batteries! Carefully remove Lithium ion batteries by severing the metal tabs with a diagonal cutter.
7. Using phillips #1 Screw driver remove plastic sections from the drive bay; Then remove the mid-plane PCBA; this board has several 1cm electrolytic capacitors.
8. 
9. Node Steps:
10. 2. Remove top cover from array node.
11. 3. Remove DIMM's, and BOOT drive from node assembly.
12. 4. Use pry bar to remove capacitors.
13. 5. Remove coin battery from motherboard.
14. 6. Remove torx screws which attach motherboard to the sheetmetal.
15. 

3.2 Optional Graphic. If the disassembly process is complex, insert a graphic illustration below to identify the items contained in the product that require selective treatment (with descriptions and arrows identifying locations).

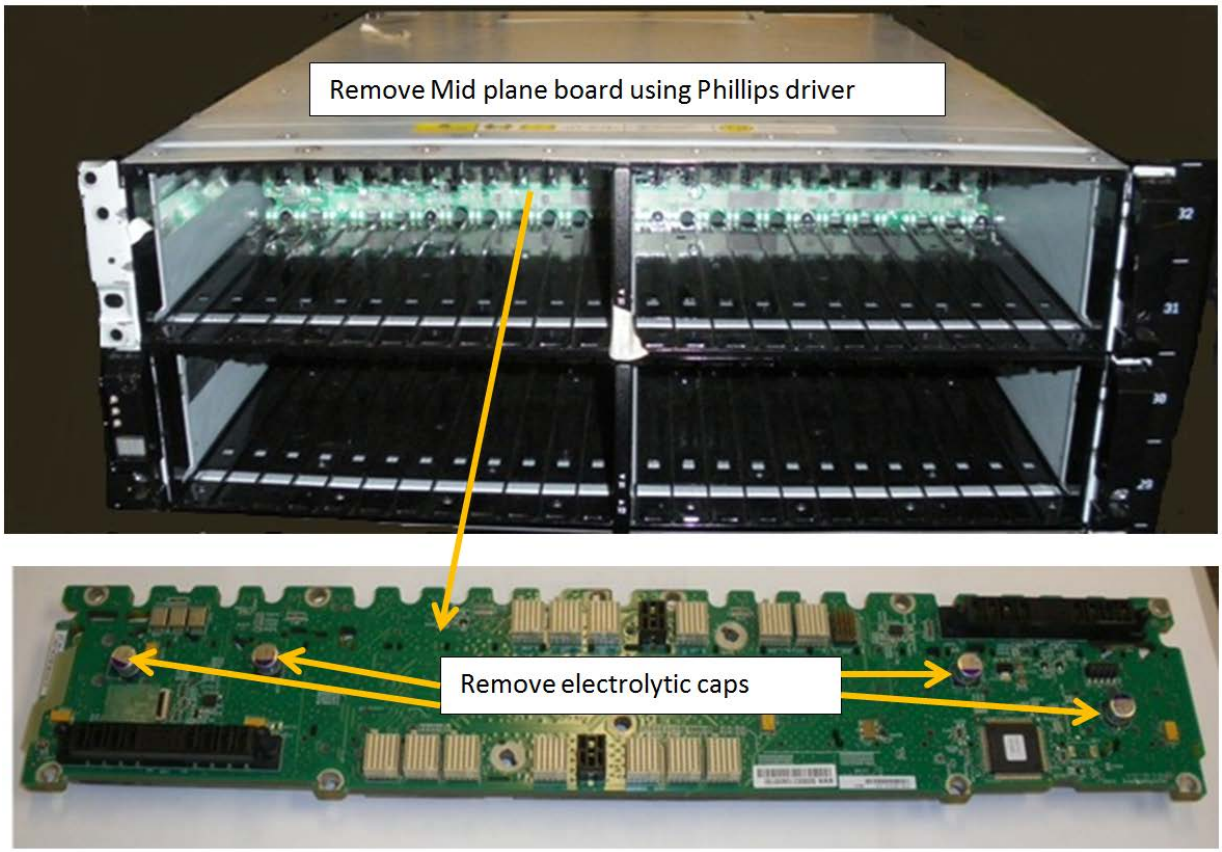
Attachment 1 – removing midplane PCA from drive chassis

Attachment 2—removing battery pack from Power Cooling Module

Attachment 3—removing electrolytic caps from Power Cooling Module

Attachment 4—removing coin cell from Node PCA

Attachment 1- Removing Midplane PCA from drive chassis



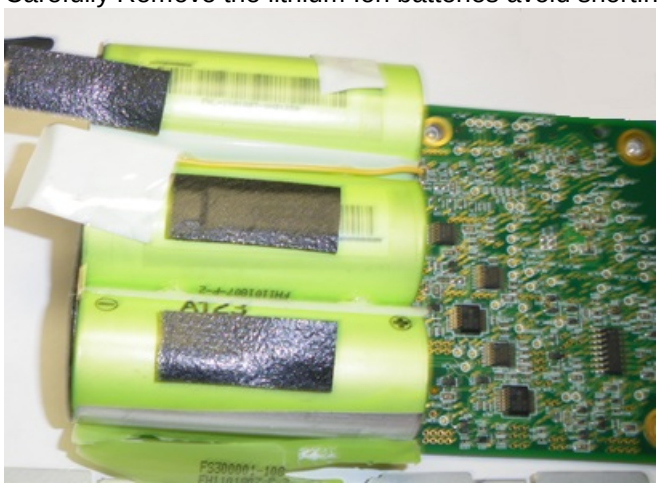



PSG instructions for this template are available at EL-MF877-01

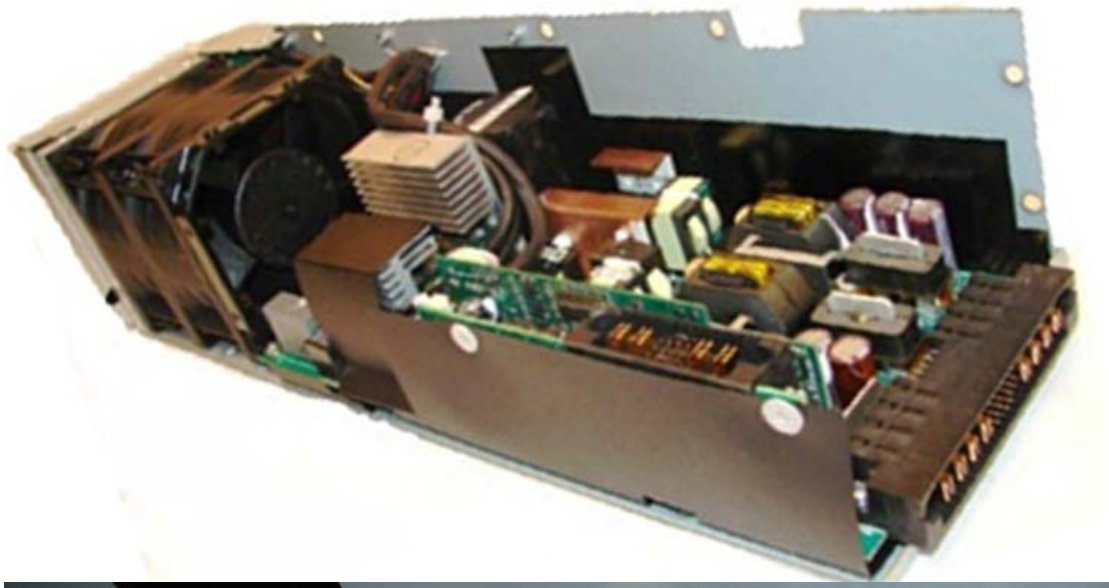
Attachement 2:  Removing battery from Power Cooling Module

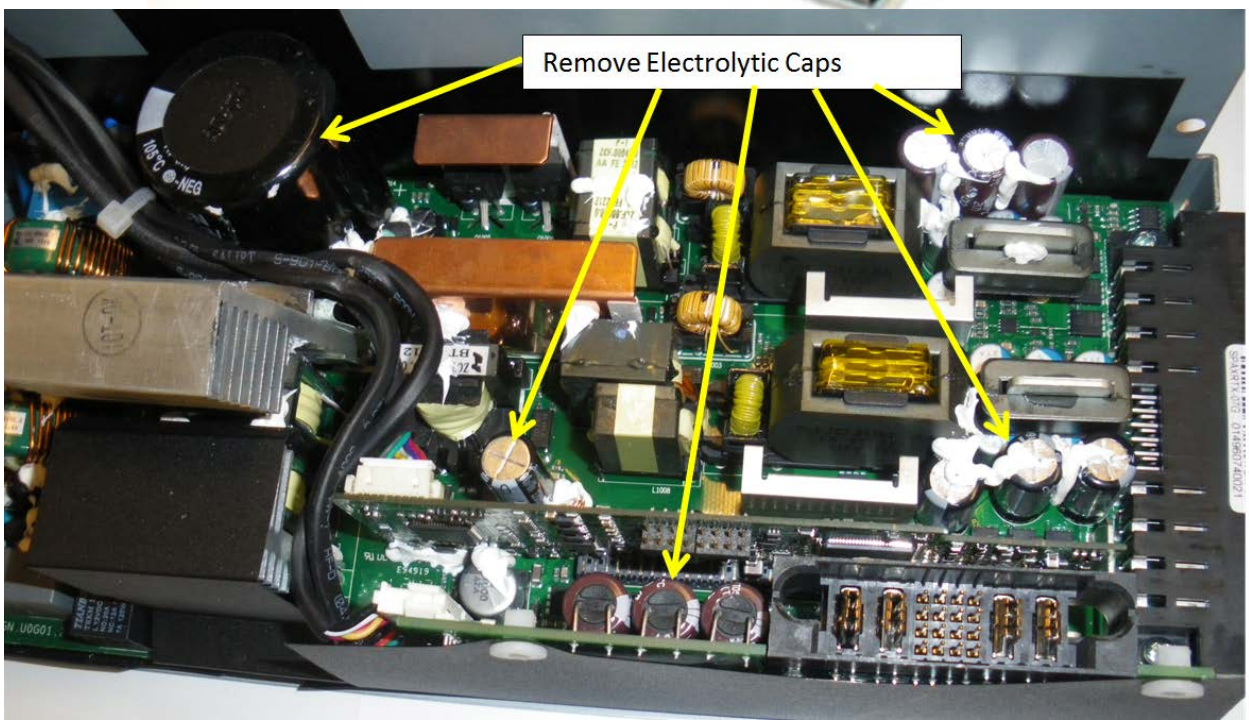
Remove the battery pack PCA from the enclosure

Carefully Remove the lithium Ion batteries avoid shorting terminals



Attachment 3:  Removing Electrolytic Capacitors from Power Cooling Module

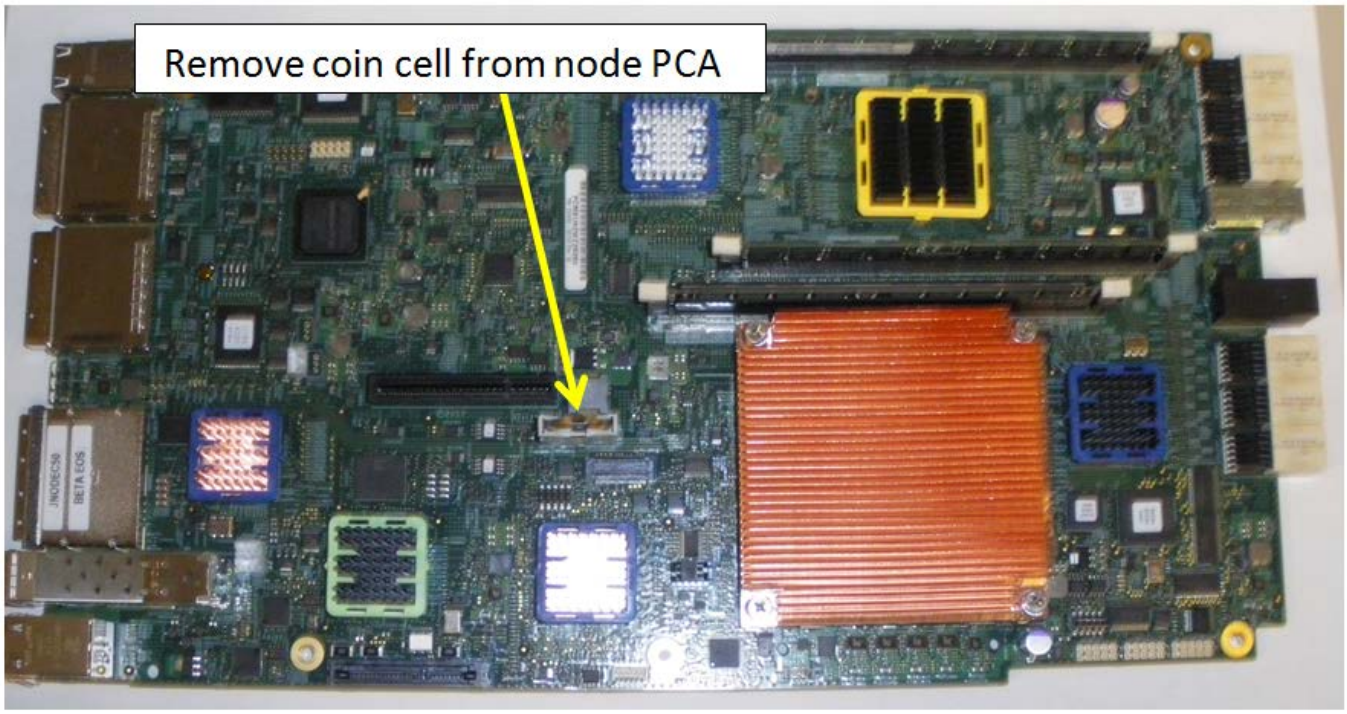







PSG instructions for this template are available at EL-MF877-01

Attachment 4:  Removing coin cell, capacitors and screws from the motherboard. :




Chassis level disassembly.

# 4U24 Enclosure Recycling Procedure

0093964-01B | Issue 1.1 | September 2010



## 1 Safety

- **Local/National Regulations**
All recycling must be performed in accordance with local/national recycling health and safety legislation.
- The enclosure can weigh up to 50kg (110lb). Do not try to lift it by yourself.
- Before moving the enclosure, always remove all Power Cooling Modules (PCMs) to minimize weight.
- Do not lift the enclosure by the handles on the PCMs. They are not designed to take the weight.
- Any batteries in the I/O modules should be removed before recycling. Dispose of them in accordance with local regulations.

***Caution: Short circuiting batteries can cause an explosion.***

## 2 Overview

A 24-Bay enclosure contains up to 24 drive carriers which may, depending on the model, contain a PCB.

The enclosure also contains up to four Power Cooling Modules (PCMs) and at least one I/O module, which will contain at least one PCB.

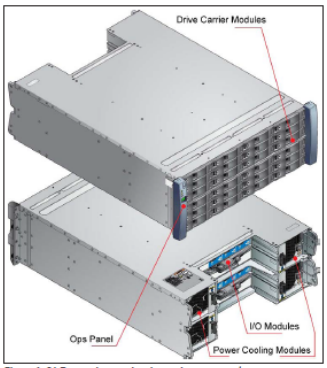



**Figure 1: 24-Bay enclosure showing main components**

## 3 Removal of Drives

1. Release the carrier handle by pressing the latch in the handle towards the right (see Figure 2).

   **Note:** The anti-tamper lock must be off.
2. Withdraw the module from the drive bay (see Figure 3).

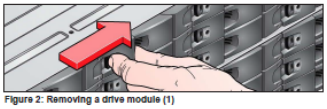


**Figure 2: Removing a drive module (1)**

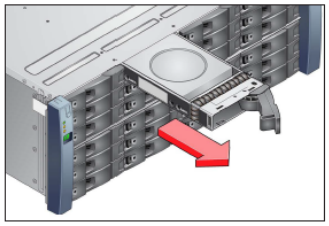


**Figure 3: Removing a drive module (2)**

## 4 Removal of PCMs

1. Grasp the latch and the side of the PCM handle between thumb and forefinger, squeeze together and open the handle to cam the PCM out of the enclosure (see Figure4).
2. Grip the handle and withdraw the module.

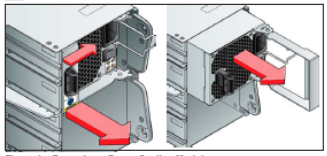


**Figure 4: Removing a Power Cooling Module**

## 5 Removal of I/O Modules

1. Release the latch and pull the handle out to cam the module out of the enclosure (see Figure 5).
2. Grip the handle and withdraw the module.

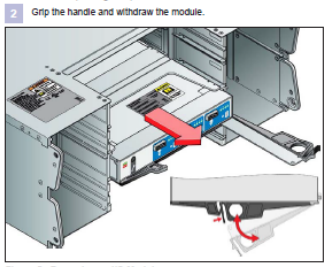


**Figure 5: Removing an I/O Module**

## 6 Dismantling a Drive Carrier Module

1. Using drills and screwdrivers as appropriate to remove rivets and screws, dismantle the Drive Carrier Module as indicated in Figure 6.

| Item | Material | Hazards |
|---|---|---|
| A | Mild steel | |
| B | Polycarbonate | |
| C | Stainless steel SUS301 | |
| D | Zinc alloy 3 | |
| All Screws, nuts and washers are zinc plated steel | | |

The module contains several polycarbonate based labels.

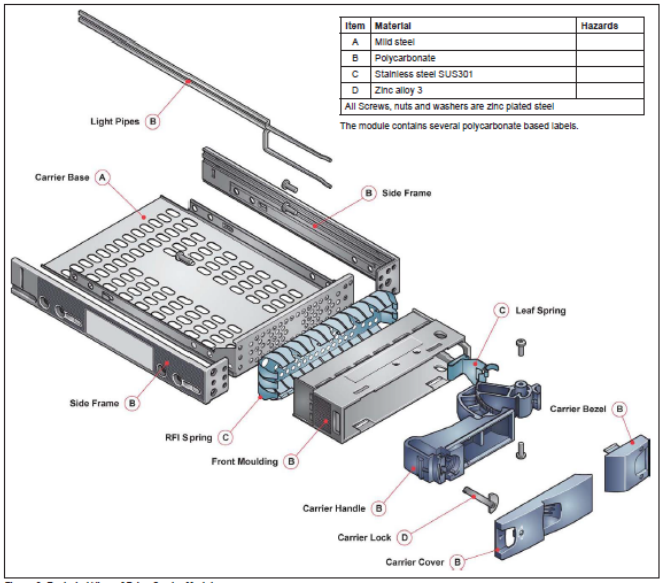



**Figure 6: Exploded View of Drive Carrier Module**





PSG instructions for this template are available at EL-MF877-01

## 7 Dismantling a Power/Cooling Module

1 Using drills and screwdrivers as appropriate to remove rivets and screws, dismantle the PCM as indicated in Figures 7 or 8.

The module contains several polycarbonate based labels.

| Item | Material | Hazards |
|---|---|---|
| A | Galvanized mild steel | |
| B | Aluminium | |
| C | Polycarbonate | |
| D | PCB | |
| E | Fan | |
| F | ITW Formex GK17 | |
| G | Gasket | |
| All Screws, nuts and washers are zinc plated steel | | |

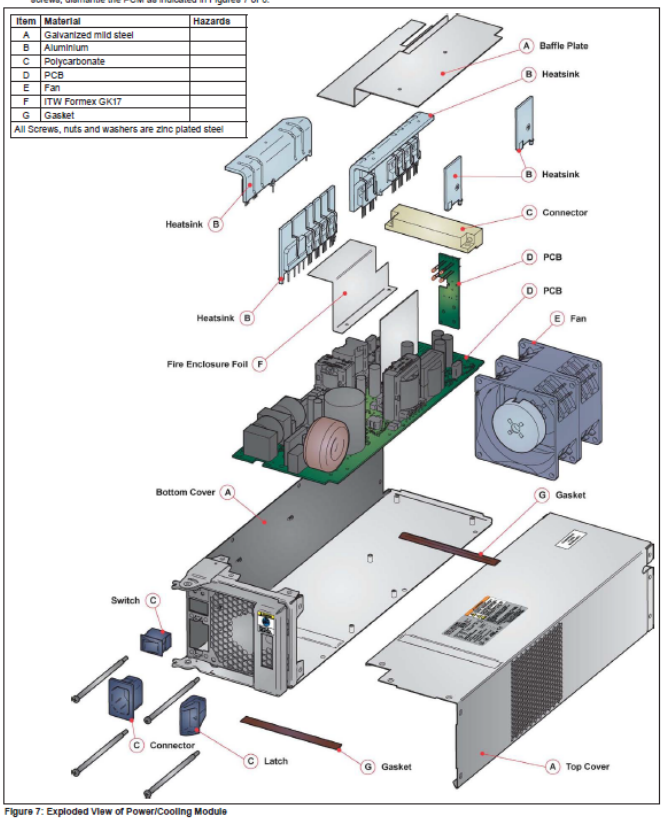



Figure 7: Exploded View of Power/Cooling Module

***Caution: The battery in the PCM module should be removed before recycling. Dispose of it in accordance with local regulations.***

***Short circuiting batteries can cause an explosion.***

| Item | Material | Hazards |
|---|---|---|
| A | Galvanized mild steel | |
| B | Battery Pack | X |
| C | Polycarbonate | |
| D | PCB | |
| E | Fan | |
| F | Nomex 410 | |
| All Screws, nuts and washers are zinc plated steel | | |

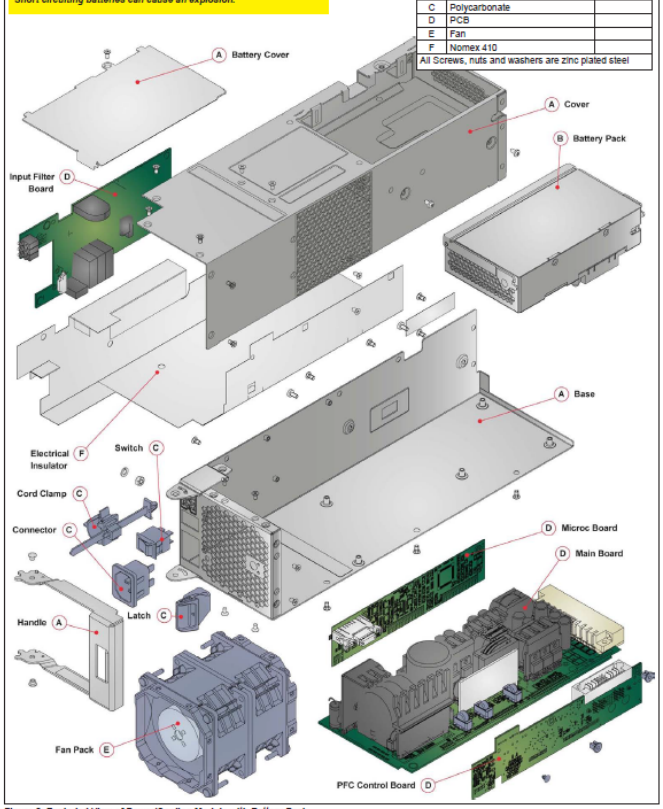



Figure 8: Exploded View of Power/Cooling Module with Battery Pack





PSG instructions for this template are available at EL-MF877-01

## 8 Dismantling an I/O Module

1 Using drills and screwdrivers as appropriate to remove rivets and screws, dismantle the I/O Module as indicated in Figure 9.

***Caution: Any batteries in the I/O modules should be removed before recycling. Dispose of them in accordance with local regulations.***

***Short circuiting batteries can cause an explosion.***

| Item | Material | Hazards |
|---|---|---|
| A | Galvanized mild steel | |
| B | Polycarbonate | |
| C | PCB | |
| D | Gasket | |
| E | Aluminium | |
| F | Mild steel | |
| All Screws, nuts and washers are zinc plated steel | | |

The module contains several polycarbonate based labels.

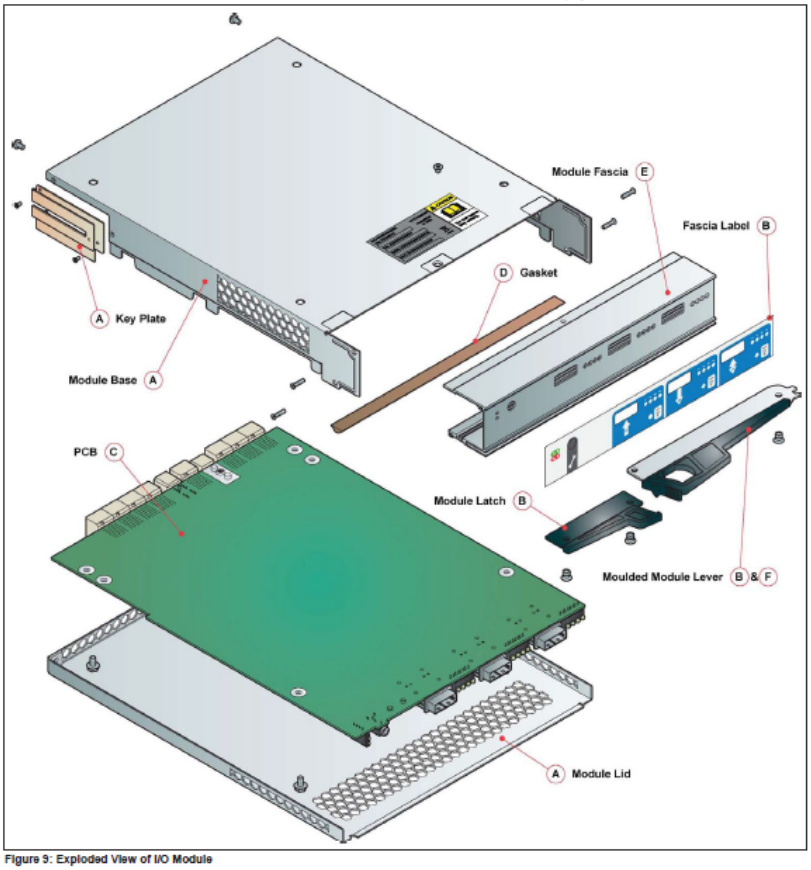



Figure 9: Exploded View of I/O Module

## 9 Dismantling a Blank I/O Module

1 Using drills and screwdrivers as appropriate to remove rivets and screws, dismantle the module as indicated in Figure 10.

| Item | Material | Hazards |
|---|---|---|
| A | Galvanised mild steel | |
| B | Polycarbonate | |
| C | Mild steel | |
| D | Aluminium | |
| E | Gasket | |
| All Screws, nuts and washers are zinc plated steel | | |

The module contains several polycarbonate based labels.

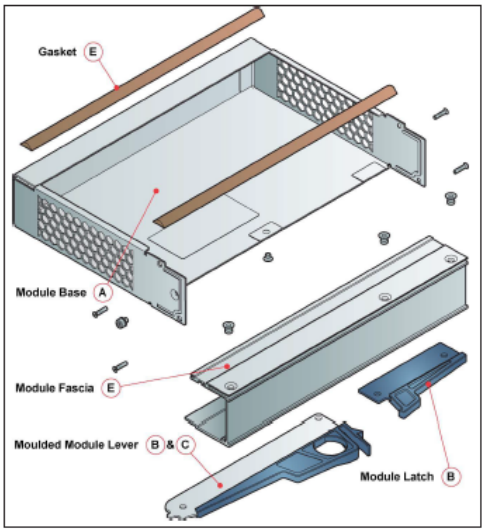



Figure 10: Exploded View of Blank I/O Module





PSG instructions for this template are available at EL-MF877-01

## 10 Dismantling the Chassis

1 Using drills and screwdrivers as appropriate to remove rivets and screws, dismantle the chassis as indicated in Figure 11.

| Item | Material | Hazards |
|---|---|---|
| A | Galvanised mild steel | |
| B | Polycarbonate | |
| C | Gasket | |
| D | Cable | |
| E | Stainless steel | |
| F | PCB | |
| All Screws, nuts and washers are zinc plated steel | | |

The module contains several polycarbonate based labels.

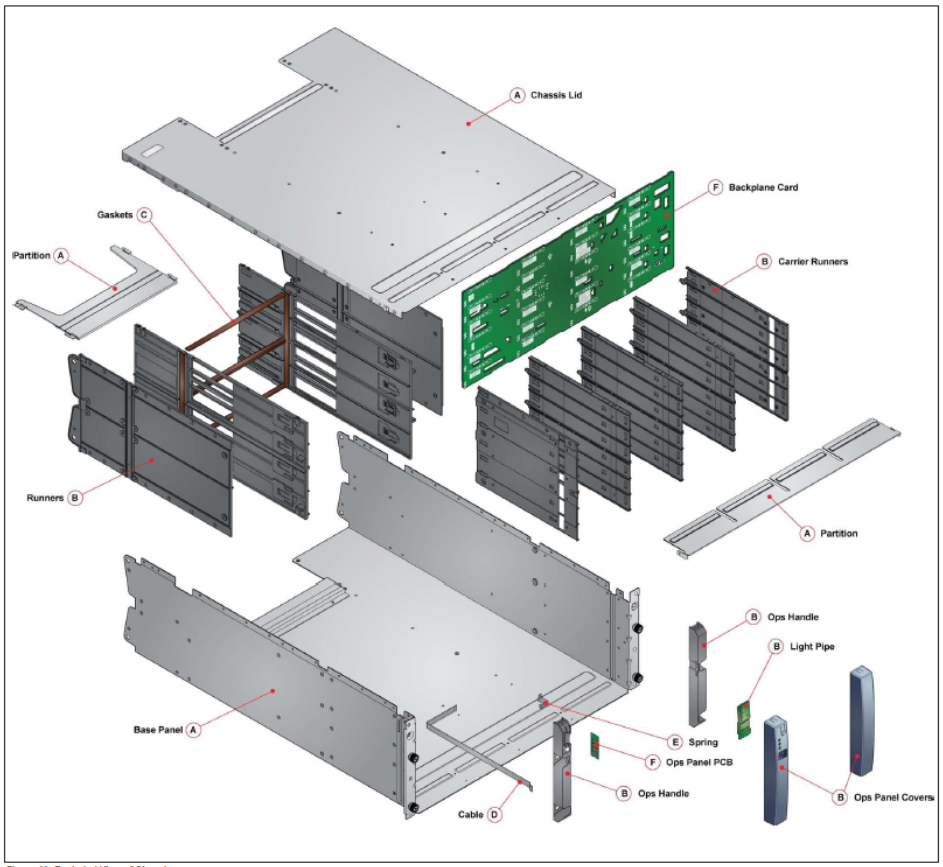



Figure 11: Exploded View of Chassis



PSG instructions for this template are available at EL-MF877-01

# 2U12 Enclosure Recycling Procedure

0094471-01B | Issue 1.1 | September 2010



## 1 Safety

- **Local/National Regulations**
All recycling must be performed in accordance with local/national recycling health and safety legislation.
- The enclosure can weigh up to 50kg (110lb). Do not try to lift it by yourself.
- Before moving the enclosure, always remove all Power Cooling Modules (PCMs) to minimize weight.
- Do not lift the enclosure by the handles on the PCMs. They are not designed to take the weight.
- Any batteries in the I/O modules should be removed before recycling. Dispose of them in accordance with local regulations.

***Caution: Short circuiting batteries can cause an explosion.***

## 2 Overview

A 2U12 enclosure contains up to 12 drive carriers which may, depending on the model, contain a PCB.

The enclosure also contains up to two Power Cooling Modules (PCMs) and at least one I/O module, which will contain at least one PCB.

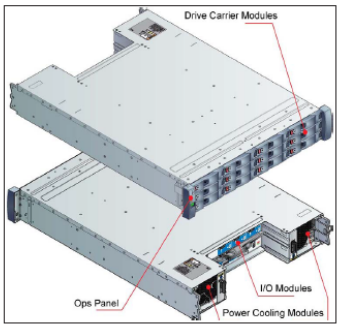



**Figure 1: 2U12 enclosure showing main components**

## 3 Removal of Drives

1. Release the carrier handle by pressing the latch in the handle towards the right (see Figure 2).

   **Note:** The anti-tamper lock must be off.
2. Withdraw the module from the drive bay (see Figure 3).

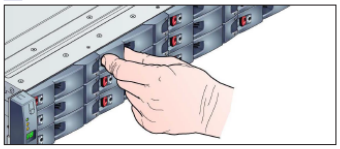


**Figure 2: Removing a drive module (1)**

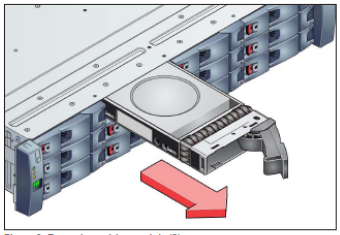


**Figure 3: Removing a drive module (2)**

## 4 Removal of PCMs

1. Grasp the latch and the side of the PCM handle between thumb and forefinger, squeeze together and open the handle to cam the PCM out of the enclosure (see Figure4).
2. Grip the handle and withdraw the module.

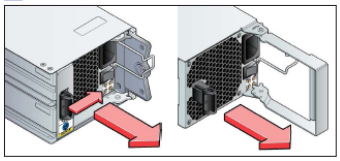


**Figure 4: Removing a Power Cooling Module**

## 5 Removal of I/O Modules

1. Release the latch and pull the handle out to cam the module out of the enclosure (see Figure 5).
2. Grip the handle and withdraw the module.

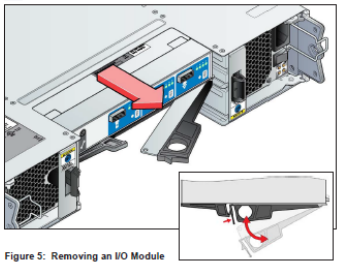


**Figure 5: Removing an I/O Module**

## 6 Dismantling a Drive Carrier Module

Using drills and screwdrivers as appropriate to remove rivets and screws, dismantle the Drive Carrier Module as indicated in Figure 6.

| Item | Material | Hazards |
|---|---|---|
| A | Mild steel | |
| B | Polycarbonate | |
| C | Stainless steel SUS301 | |
| D | Zinc alloy 3 | |
| All Screws, nuts and washers are zinc plated steel | | |

The module contains several polycarbonate based labels.

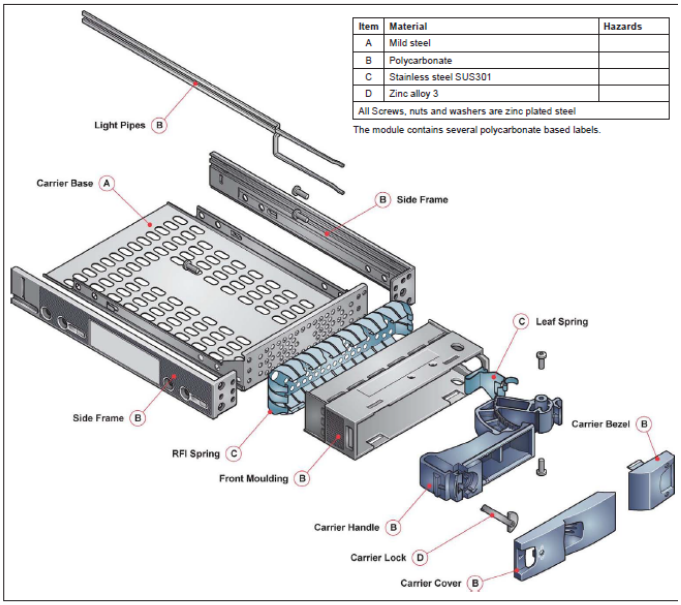



**Figure 6: Exploded View of Drive Carrier Module**





PSG instructions for this template are available at EL-MF877-01

## 7 Dismantling a Power/Cooling Module

1 Using drills and screwdrivers as appropriate to remove rivets and screws, dismantle the PCM as indicated in Figures 7 or 8.

The module contains several polycarbonate based labels.

| Item | Material | Hazards |
|---|---|---|
| A | Galvanized mild steel | |
| B | Aluminium | |
| C | Polycarbonate | |
| D | PCB | |
| E | Fan | |
| F | ITW Formex GK17 | |
| G | Gasket | |

All Screws, nuts and washers are zinc plated steel

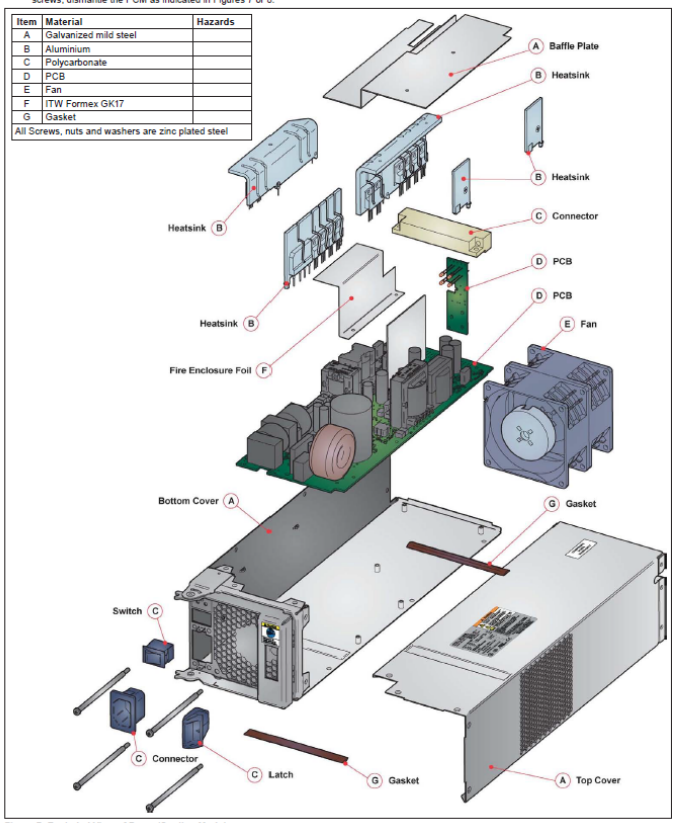



Figure 7: Exploded View of Power/Cooling Module

***Caution: The battery in the PCM module should be removed before recycling. Dispose of it in accordance with local regulations.***

***Short circuiting batteries can cause an explosion.***

| Item | Material | Hazards |
|---|---|---|
| A | Galvanized mild steel | |
| B | Battery Pack | X |
| C | Polycarbonate | |
| D | PCB | |
| E | Fan | |
| F | Nomex 410 | |

All Screws, nuts and washers are zinc plated steel

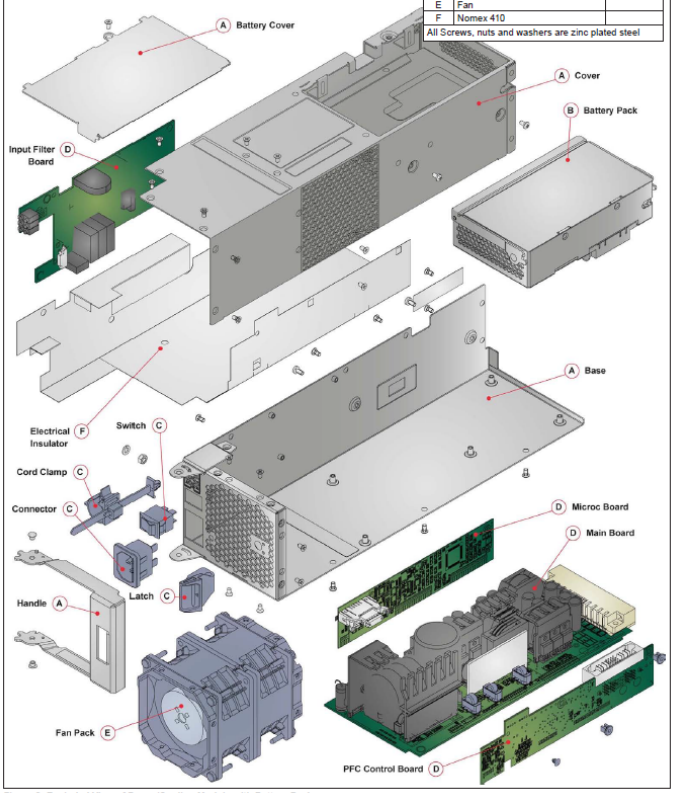



Figure 8: Exploded View of Power/Cooling Module with Battery Pack



PSG instructions for this template are available at EL-MF877-01

## 8 Dismantling an I/O Module

1 Using drills and screwdrivers as appropriate to remove rivets and screws, dismantle the I/O Module as indicated in Figure 9.

***Caution: Any batteries in the I/O modules should be removed before recycling. Dispose of them in accordance with local regulations.***

***Short circuiting batteries can cause an explosion.***

| Item | Material | Hazards |
|---|---|---|
| A | Galvanized mild steel | |
| B | Polycarbonate | |
| C | PCB | |
| D | Gasket | |
| E | Aluminium | |
| F | Mild steel | |
| All Screws, nuts and washers are zinc plated steel | | |

The module contains several polycarbonate based labels.

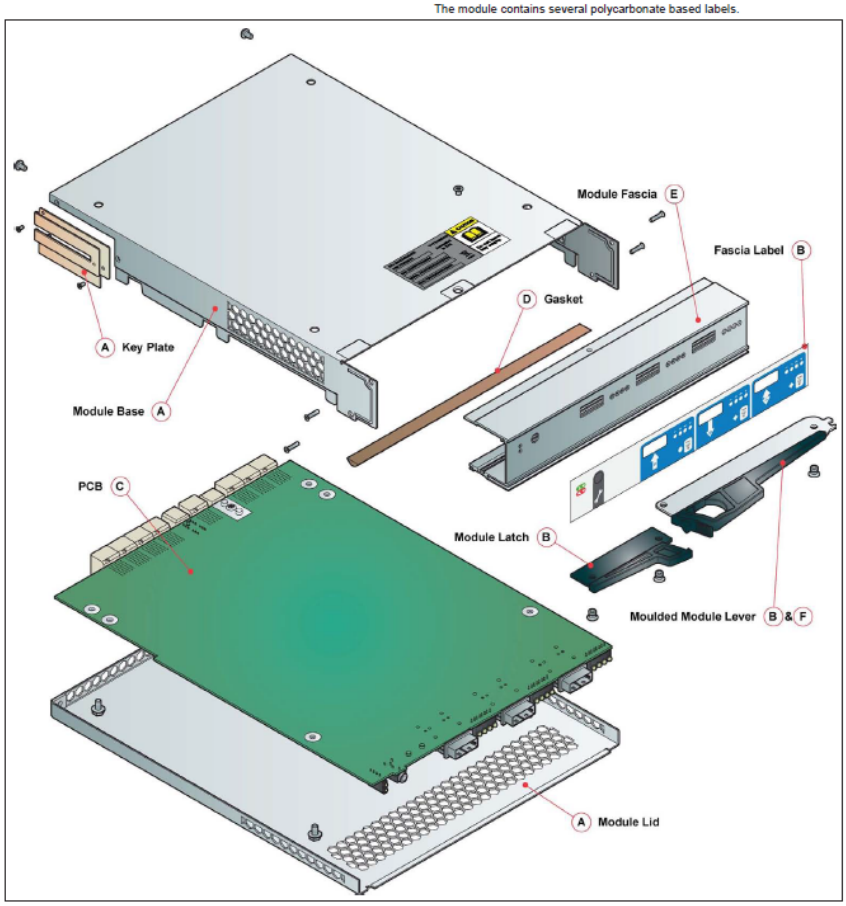



Figure 9: Exploded View of I/O Module

## 9 Dismantling a Blank I/O Module

1 Using drills and screwdrivers as appropriate to remove rivets and screws, dismantle the module as indicated in Figure 10.

| Item | Material | Hazards |
|---|---|---|
| A | Galvanised mild steel | |
| B | Polycarbonate | |
| C | Mild steel | |
| D | Aluminium | |
| E | Gasket | |
| All Screws, nuts and washers are zinc plated steel | | |

The module contains several polycarbonate based labels.

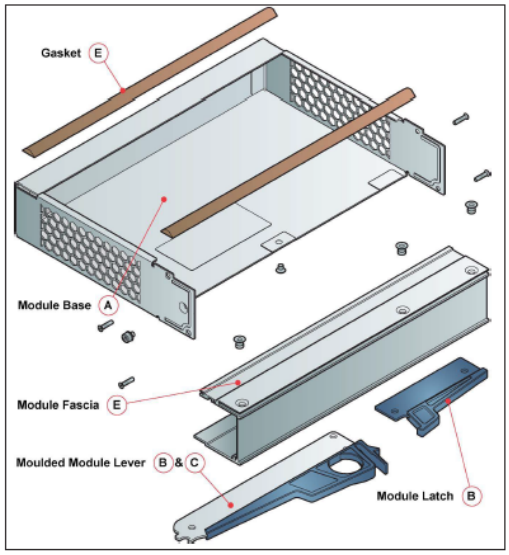



Figure 10: Exploded View of Blank I/O Module



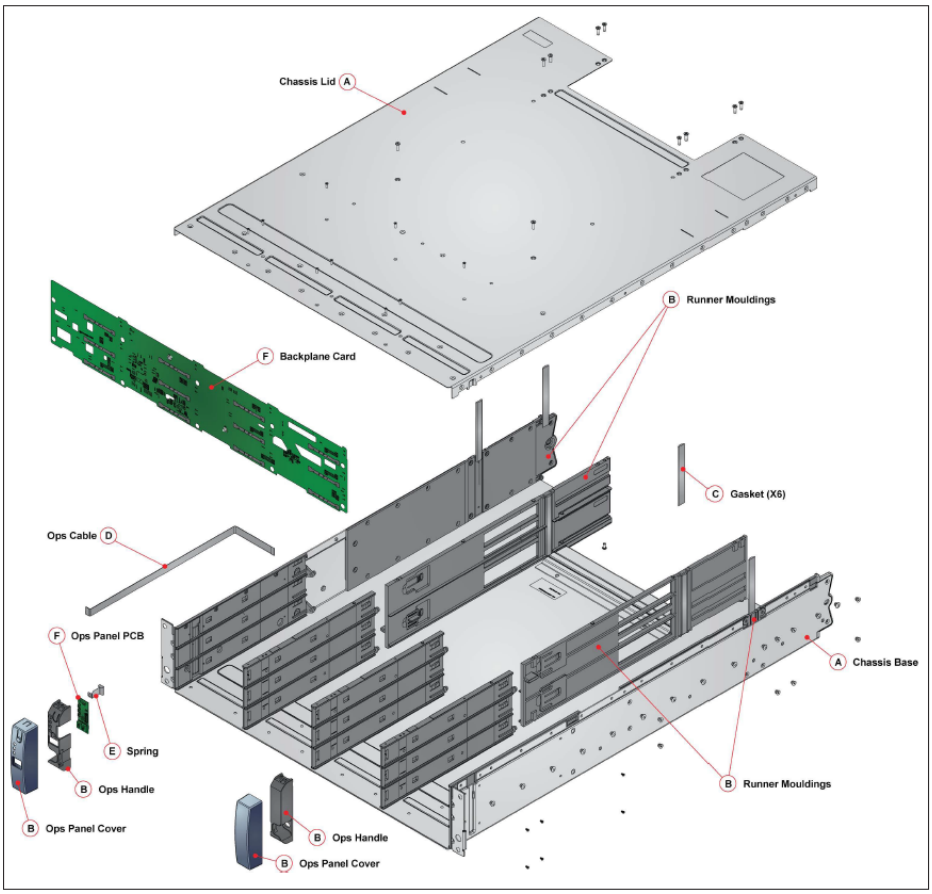
PSG instructions for this template are available at EL-MF877-01

## 10 Dismantling the Chassis

1 Using drills and screwdrivers as appropriate to remove rivets and screws, dismantle the chassis as indicated in Figure 11.

| Item | Material | Hazards |
|---|---|---|
| A | Galvanised mild steel | |
| B | Polycarbonate | |
| C | Gasket | |
| D | Cable | |
| E | Stainless steel | |
| F | PCB | |
| All Screws, nuts and washers are zinc plated steel | | |

The module contains several polycarbonate based labels.






PSG instructions for this template are available at EL-MF877-01

# 2U24 Enclosure Recycling Procedure

0094472-01B | Issue 1.1 | September 2010



## 1 Safety

- **Local/National Regulations**
All recycling must be performed in accordance with local/national recycling health and safety legislation.
- The enclosure can weigh up to 24kg (53lb). Do not try to lift it by yourself.
- Do not lift the enclosure by the handles on the PCMs. They are not designed to take the weight.
- Any batteries in the I/O modules should be removed before recycling. Dispose of them in accordance with local regulations.

***Caution: Short circuiting batteries can cause an explosion.***

## 2 Overview

A 2U24 enclosure contains up to 24 drive carriers which may, depending on the model, contain a PCB.

The enclosure also contains up to two Power Cooling Modules (PCMs) and at least one I/O module, which will contain at least one PCB.

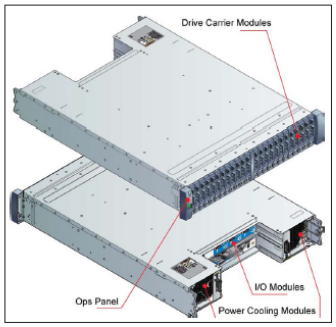



**Figure 1: 2U24 enclosure showing main components**

## 3 Removal of Drives

1. Release the carrier handle by pressing the latch in the handle downwards (see Figure 2).
**Note:** The anti-tamper lock must be off.
2. Withdraw the module from the drive bay (see Figure 3).

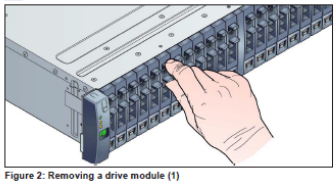


**Figure 2: Removing a drive module (1)**

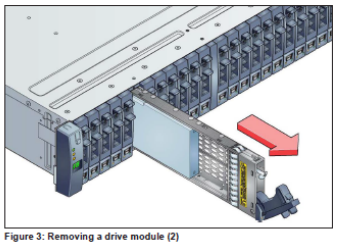


**Figure 3: Removing a drive module (2)**

## 4 Removal of PCMs

1. Grasp the latch and the side of the PCM handle between thumb and forefinger, squeeze together and open the handle to cam the PCM out of the enclosure (see Figure 4).
2. Grip the handle and withdraw the module.

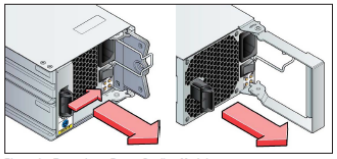


**Figure 4: Removing a Power Cooling Module**

## 5 Removal of I/O Modules

1. Release the latch and pull the handle out to cam the module out of the enclosure (see Figure 5).
2. Grip the handle and withdraw the module.

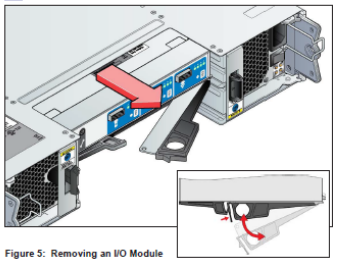


**Figure 5: Removing an I/O Module**

## 6 Dismantling a Drive Carrier Module

1. Using drills and screwdrivers as appropriate to remove rivets and screws, dismantle the Drive Carrier Module as indicated in Figure 6.

| Item | Material | Hazards |
|---|---|---|
| A | Mild steel | |
| B | Polycarbonate | |
| C | Stainless steel SUS301 | |
| D | Zinc alloy 3 | |
| E | Music wire | |
| All Screws, nuts and washers are zinc plated steel | | |

The module contains several polycarbonate based labels.

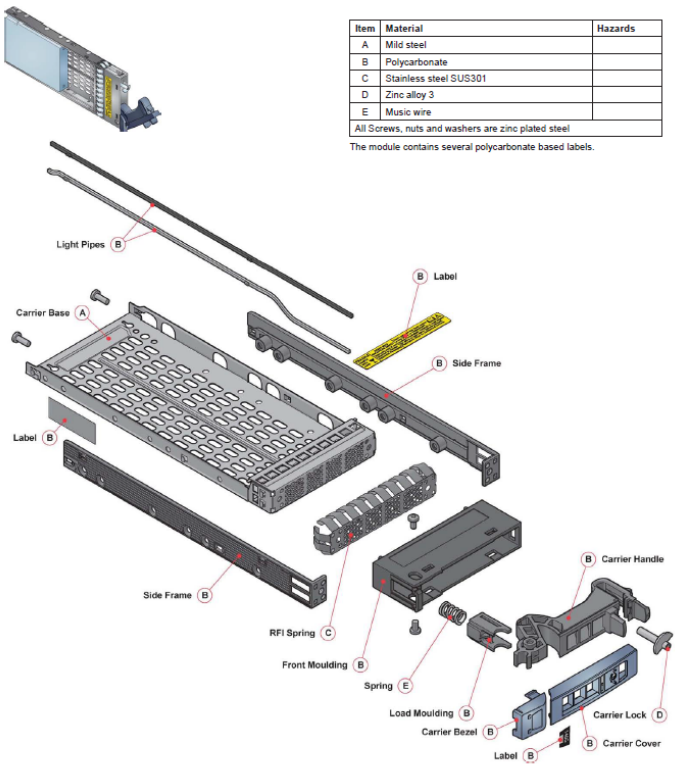



**Figure 6: Exploded View of Drive Carrier Module**



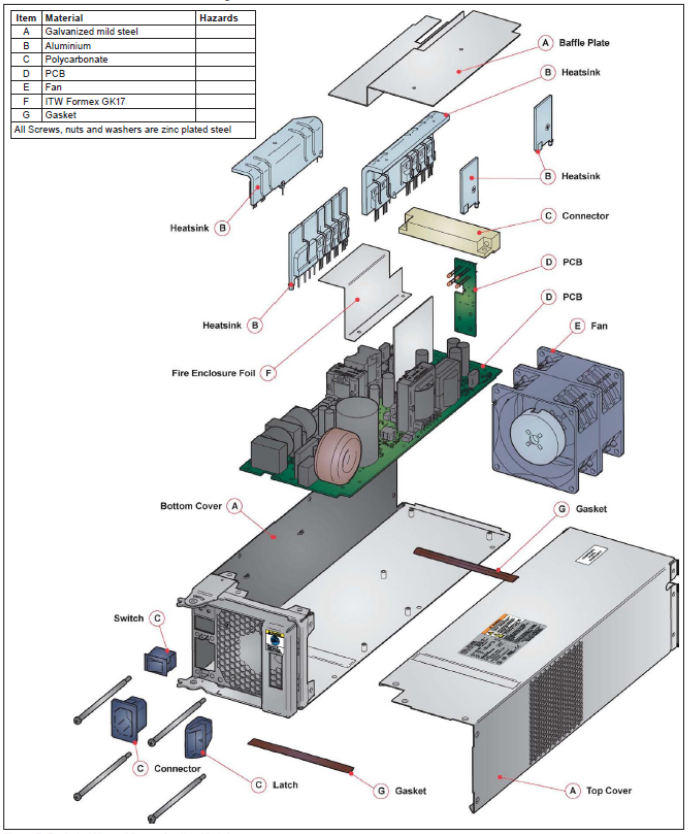
PSG instructions for this template are available at EL-MF877-01

## 7 Dismantling a Power/Cooling Module

1 Using drills and screwdrivers as appropriate to remove rivets and screws, dismantle the PCM as indicated in Figures 7 or 8.

The module contains several polycarbonate based labels.

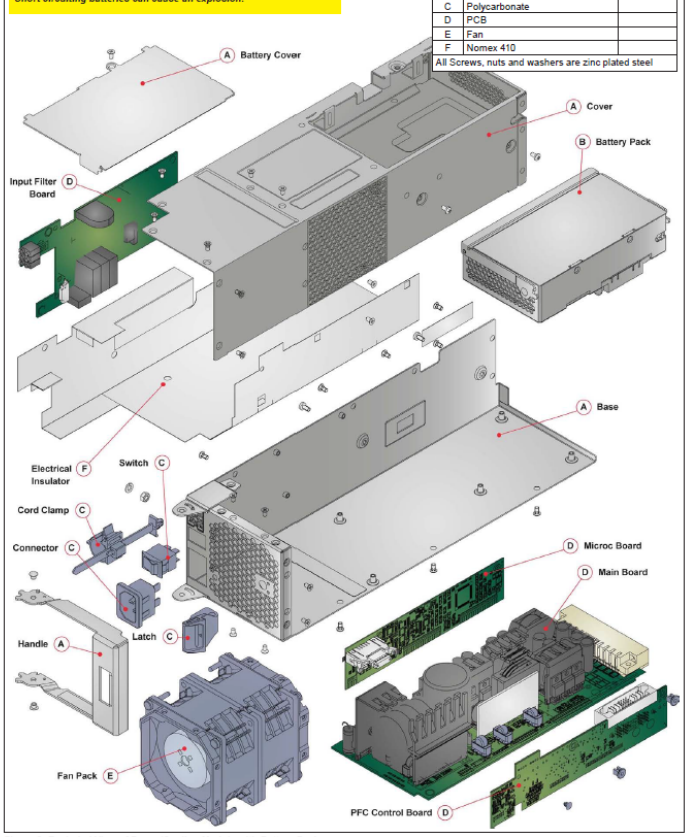
| Item | Material | Hazards |
|---|---|---|
| A | Galvanized mild steel | |
| B | Aluminium | |
| C | Polycarbonate | |
| D | PCB | |
| E | Fan | |
| F | ITW Formex GK17 | |
| G | Gasket | |
| All Screws, nuts and washers are zinc plated steel | | |




***Caution: The battery in the PCM module should be removed before recycling. Dispose of it in accordance with local regulations.***

***Short circuiting batteries can cause an explosion.***

| Item | Material | Hazards |
|---|---|---|
| A | Galvanized mild steel | |
| B | Battery Pack | X |
| C | Polycarbonate | |
| D | PCB | |
| E | Fan | |
| F | Nomex 410 | |
| All Screws, nuts and washers are zinc plated steel | | |






PSG instructions for this template are available at EL-MF877-01

## 8 Dismantling an I/O Module

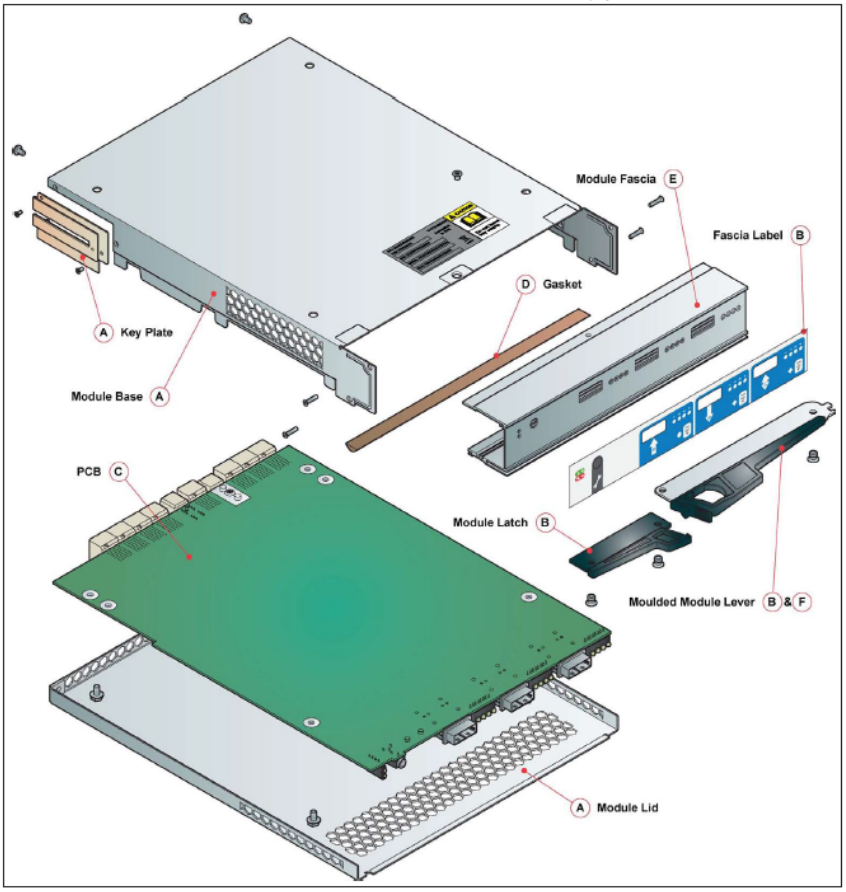
1 Using drills and screwdrivers as appropriate to remove rivets and screws, dismantle the I/O Module as indicated in Figure 9.

***Caution: Any batteries in the I/O modules should be removed before recycling. Dispose of them in accordance with local regulations.***

***Short circuiting batteries can cause an explosion.***

| Item | Material | Hazards |
|---|---|---|
| A | Galvanized mild steel | |
| B | Polycarbonate | |
| C | PCB | |
| D | Gasket | |
| E | Aluminium | |
| F | Mild steel | |
| All Screws, nuts and washers are zinc plated steel | | |

The module contains several polycarbonate based labels.




## 9 Dismantling a Blank I/O Module

1 Using drills and screwdrivers as appropriate to remove rivets and screws, dismantle the module as indicated in Figure 10.

| Item | Material | Hazards |
|---|---|---|
| A | Galvanised mild steel | |
| B | Polycarbonate | |
| C | Mild steel | |
| D | Aluminium | |
| E | Gasket | |
| All Screws, nuts and washers are zinc plated steel | | |

The module contains several polycarbonate based labels.

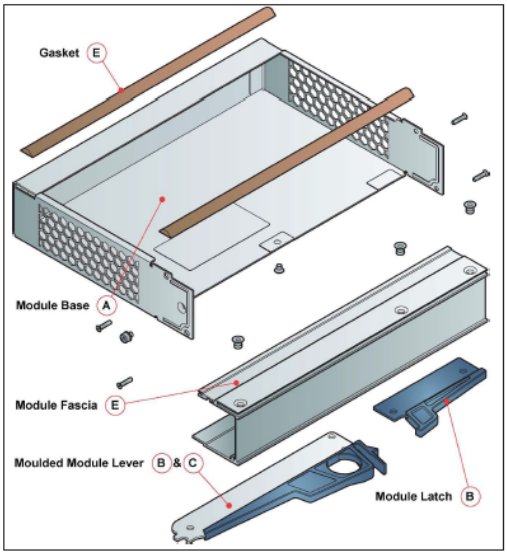



Figure 10: Exploded View of Blank I/O Module



PSG instructions for this template are available at EL-MF877-01

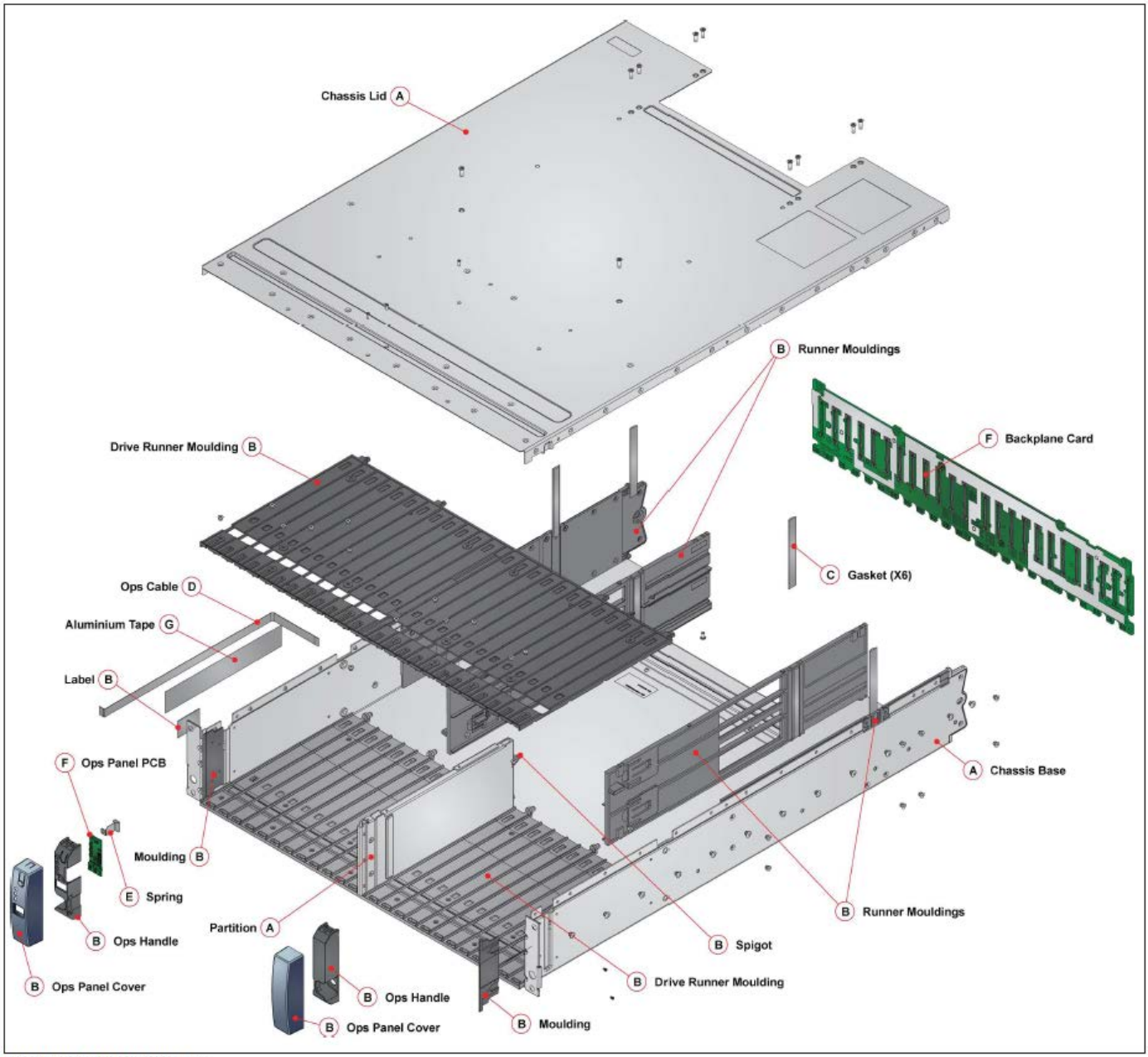



Figure 11: Exploded View of Chassis



PSG instructions for this template are available at EL-MF877-01