Technical Support
TECHNICAL NOTE

Technical Note TN-816

Modifying the Tait Orca Charger (TOPA-CH-200) to Prevent Current Leakage

7 November 2003

Applicability

This Technical Note applies to all Tait Orca Desktop Fast Chargers (TOPA-CH-200). It does not apply to the Multi-charger (TOPA-CH-300).

1. Introduction

Background

In July 2003 Tait Electronics launched a switched-mode power supply to power the Tait Orca Desktop Fast Charger (TOPA-CH-200). This power supply is the T952-400. If the AC supply is lost to this power supply and a battery is placed in the charger, then the battery will provide a voltage source and current will illuminate the LED in the power supply.

This current draw has been measured at approximately 6.63mA.

This Technical Note describes how to modify the TOPA-CH-200 to stop this current leakage, and thus stop the battery discharging if the AC supply is lost.

2. Tool Requirements

Tools

- Flat bladed screwdriver
- Scalpel
- Needle-nose pliers
- Soldering Iron with small tip

Parts

- IPN 001-00011-70 1N4001 Diode

Work Area

- Static (ESD) safe matting and heel and / or wrist straps as a minimum requirement.

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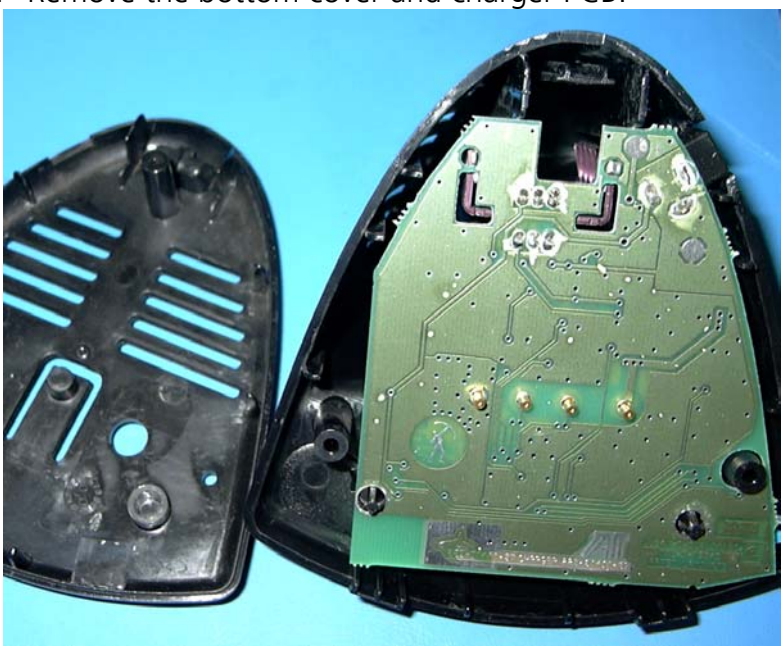
3. Modification

Steps

1. Turn the TOPA-CH-200 Charger over. Insert a flat bladed screwdriver into the cavity as pictured below. Lever the screwdriver (in the direction shown below) so that the clip is pushed back releasing the bottom cover.

2. Remove the bottom cover and charger PCB.



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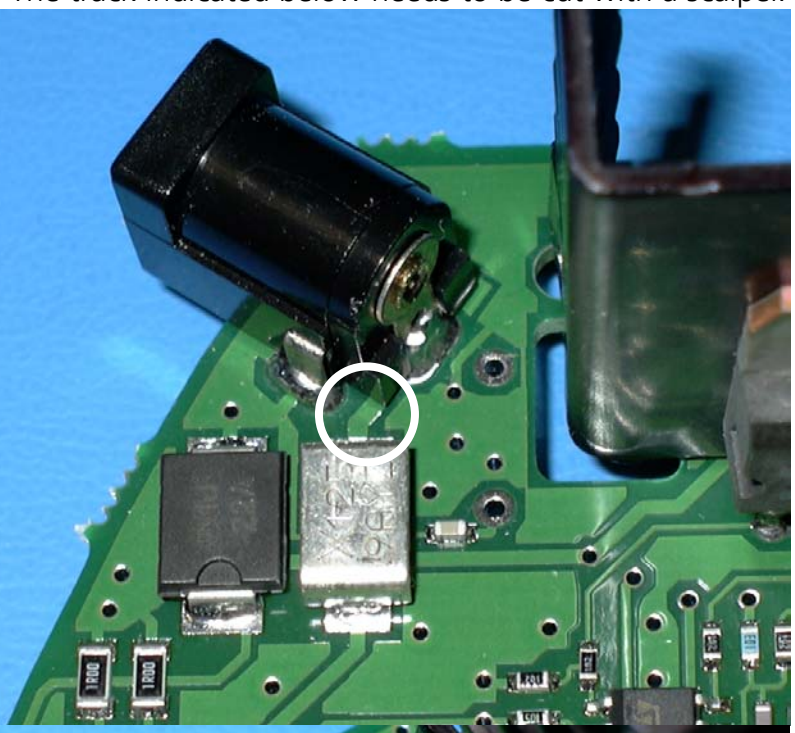
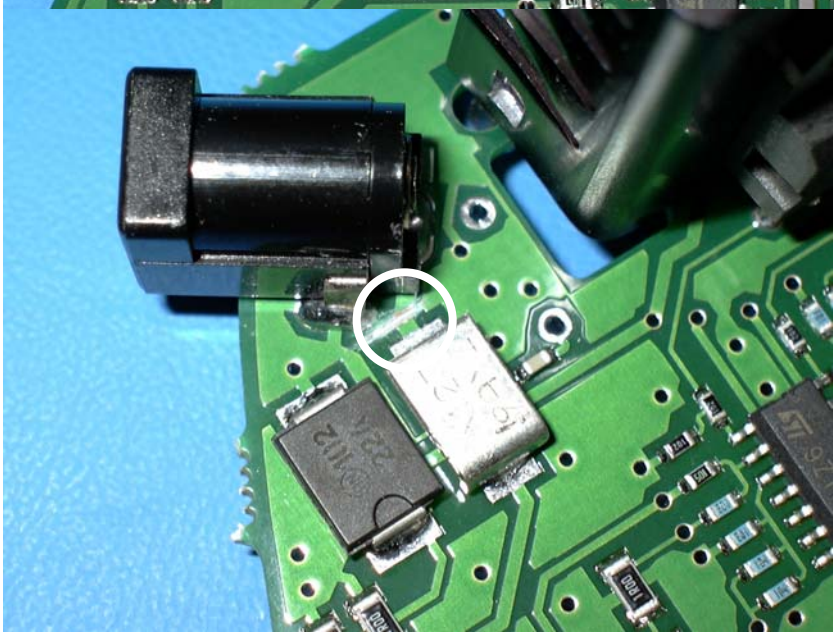
3. The track indicated below needs to be cut with a scalpel.

Before



After



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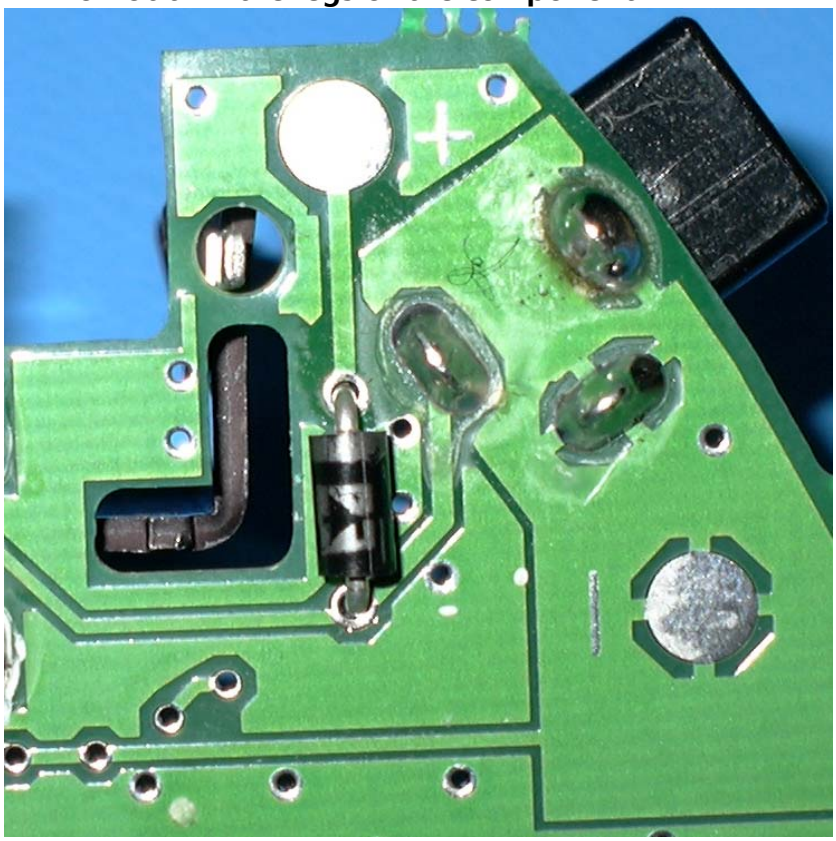
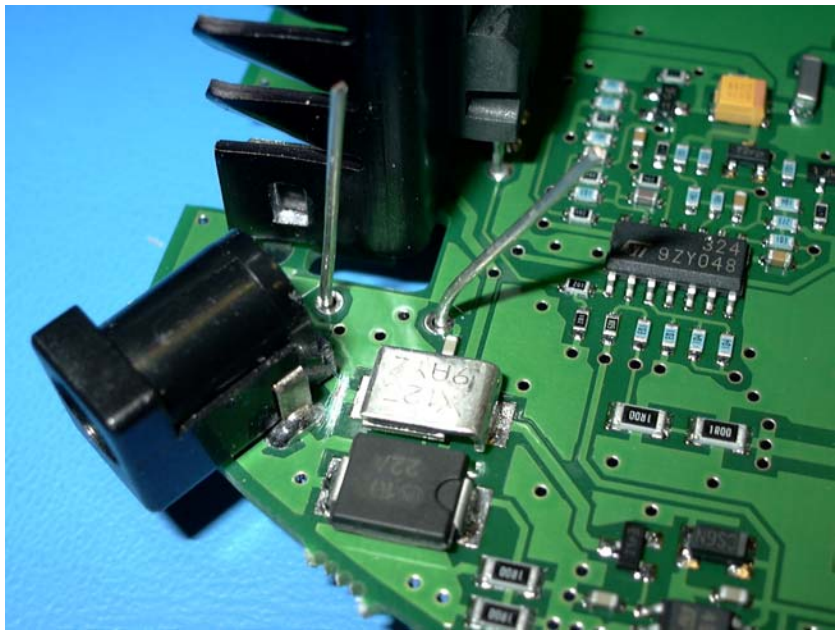
4. Take the 1N4001 Diode (IPN 001-00011-70), and fit it as shown on the bottom side of the PCB, with the anode to the DC socket centre pin.
   Do not trim the legs of the component.

PCB Bottom Side



PCB Top Side



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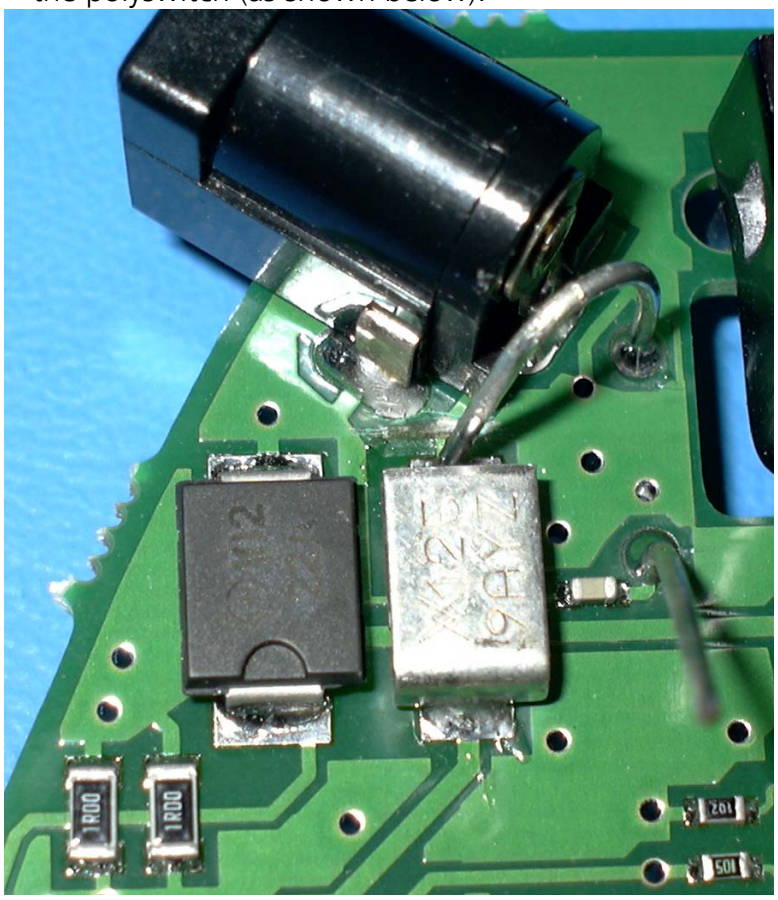
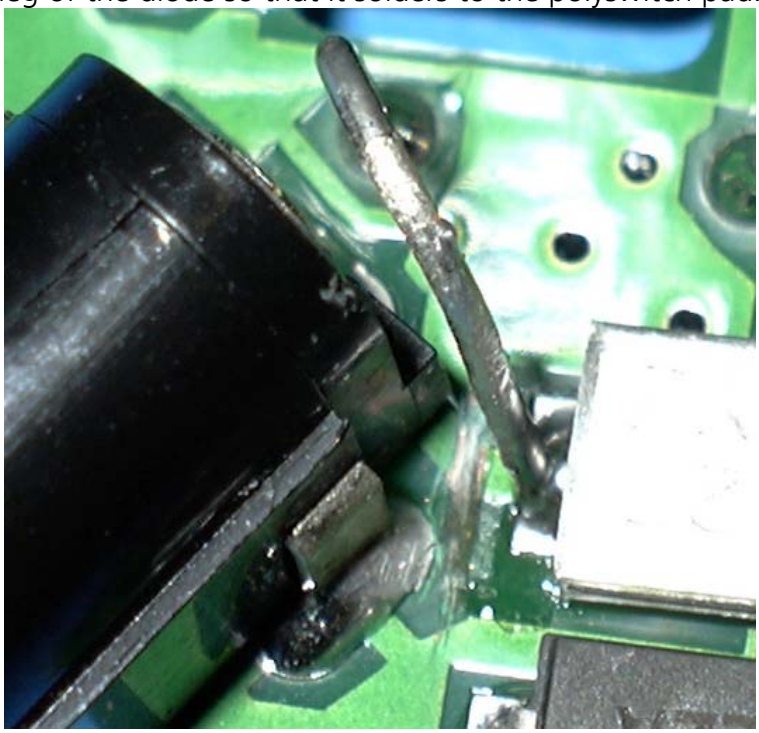
5. Using a pair of needle-nose pliers, carefully bend the cathode leg of the diode over so it rests on the pad of the polyswitch (as shown below).



Solder the two legs, then apply enough solder to the end leg of the diode so that it solders to the polyswitch pad.



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6. Finally, trim the anode leg of the diode.
7. Reassemble the charger by placing the PCB back into the main case. Then place the bottom cover over the top. The bottom cover should clip firmly into place.

Compliance Issues None

CSO Instruction **CSO's** – please inform all technical staff and dealers of this optional modification if the T952-400 is used.

4. Issuing Authority

Name and Position of Issuing Officer Tim Lummis
Technical Support Engineer

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