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Technical Note TN-694

**Converting a Tait Orca 5000  
Audio Accessory to an Original  
Tait Orca Audio Accessory**

13<sup>th</sup> December 2001

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**Applicability**

This Technical Note only applies to the Tait Orca 5000 series range of audio accessories listed below:

TOPA-AA-101 Light Weight Foster Speaker Mic

TOPA-AA-103 Heavy Duty Otto Speaker Mic

TOPA-AA-104 Heavy Duty RF Otto Speaker Mic

TOPA-AA-105 Tait Orca 5000 7.5mm Accessory Adaptor.

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## 1. Introduction

### Background

The D-Clip carrier and D-Clip audio accessories have been found to have an endemic defect. The problem is caused by the rubbing together of the metal of the D-Clip on the metal of the 5000 series chassis. Over the period of several months the connection comes loose, which in turn causes intermittent audio problems. In the worst case, the D-Clip can tear out of the Tait Orca 5000 chassis thus damaging the chassis and the D-Clip.

There are several options listed in Warranty Remedy WR002 that will give a temporary work-around to the issue mentioned above. One of the options outlined in the WR002 document mentions changing the Tait Orca 5000 audio accessory to an Original Tait Orca Audio Accessory.

This Technical note is designed to take the reader through a step by step process of converting the damaged accessory to a working accessory connector.

### Related Documents

WR002 – D-Clip Accessories.

## 2. Instructions

### Component Requirements

The Tait Orca 5000 chassis needs to be replaced with a Tait Orca Chassis (IPN: **303-11194-02** Tait Orca Chassis) in order for the conversion to work. As well as changing the chassis, the back panel also needs to be changed from the Tait Orca 5000 back panel to the Tait Orca back panel (IPN: **316-06632-01**). To order the chassis conversion kit, please order quoting number **TOPA-SP-10F**. Eight chassis and back covers are supplied in this kit

An audio accessory conversion kit also needs to be obtained as part of your initial warranty claim.

Tait Orca Speaker Mic Modification Kit – **TOPA-SP-10D**

Tait Orca 7.5mm Adaptor Modification Kit – **TOPA-SP-10E**

Each kit has enough parts for eight audio accessory conversions.

The kit contains the following parts:

- 1) Locking Lever (IPN 303-20058-00)
- 2) Locking Lever Ring (IPN 308-01055-03)
- 3) M2\*5mm SS Pan Torx screw (IPN 345-00020-09)
- 4) Cable Crimp (IPN 357-01049-01). Not for the 7.5mm kit
- 5) Appropriate accessory housing ( either IPN: 308-01056-02 for 7.5mm adaptor or IPN: 305-01055-03 for speaker mic)
- 6) Screw Bush (IPN 354-01044-00). Two are required for the 7.5mm adaptor kit (already in the housing).
- 7) 4.7mm grommet (IPN: 360-02017-00). Only required for the speaker mic kit if the original grommet is damaged.

### Tool Requirements

- M2 Torx 6 head screw driver
- Small Flat Head Screw driver
- Side Cutters.
- Needle nose Pliers
- Soldering Iron with a number 7 narrow tip.
- Solder Wick.
- Optional Crimper

## Procedure

### Step 1: Unscrew the M2 x 5mm Torx head screw



### Step 2: Remove rubber PCB seal



### Step 3: De-solder the wires from the PCB: (not required for TOPA-AA-105)

And remove the wires from the guide holes on the PCB also. **Do not** discard the PCB, as this will be re-used. The Wire order on the PCB Pads is as follows:

PAD 1 – White

PAD 2 – Braid Ground

PAD 3 – Red

PAD 4 – Green

PAD 5 – Blue

PAD 6 – Black

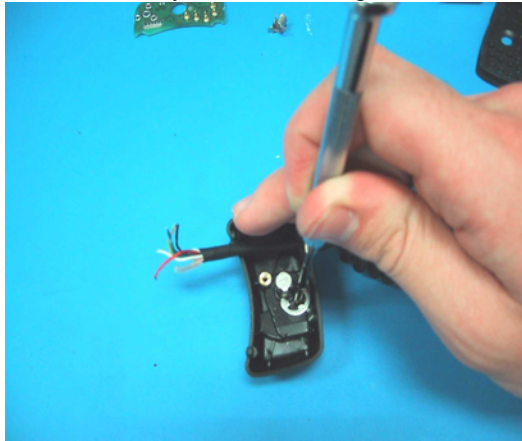
PAD 7 – Yellow

PAD 8 and PAD 9 are not used for audio accessories



**Step 4: Pry the locking washer from the D-Clip**

An easy method of doing this is by using a flat blade screwdriver and levering against the D-clip itself.

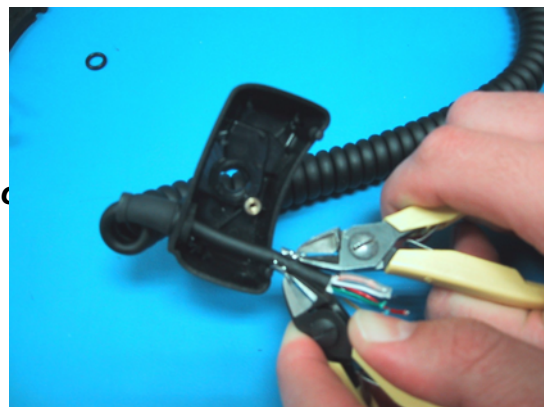


**Step 5: Remove the Rubber Seal from around the D-Clip hole.**

**Step 6: Remove the D-Clip and Locking device.**



**Step 7: Remove Crimp on the Cable: (not required for TOPA-AA-105)**





**Step 9: Insert Cable and Grommet into the Tait Orca Housing:**

Cable and Grommet are not present on a TOPA-AA-105. Simply insert the adapter PCB into the new housing.



**Step 10: Re-solder the wires in order: (not required for TOPA-AA-105)**

Ensure the wires are fed through the holes in the PCB correctly and no strain is put on them. The Wire order on the PCB Pads is as follows:

PAD 1 – White

PAD 2 – Braid Ground

PAD 3 – Red

PAD 4 – Green

PAD 5 – Blue

PAD 6 – Black

PAD 7 – Yellow

PAD 8 and PAD 9 are not used for audio accessories

**Step 11: Attach new crimp to the cable: (not required for TOPA-AA-105).**

Attach the Grommet slightly higher than it was previously. This will give a lot of clearance for fitting the PCB flat later on. Ensure the crimp teeth are pressed firmly into the cable. Cut back the cable if you require more wire to be exposed for re-attaching the wires to the PCB.



**Step 12: Insert Green Locking Ring and Locking Lever into the Housing.**



**Step 13: Move the cable crimp into the cable grommet: (not required for TOPA-AA-105)**



Ensure the crimp is positioned in the grommet. This will prevent the crimp from shorting out on the PCB.

**Step 14: Put the PCB rubber seal back on.**

Ensure all edges are sitting flat. You may need to use a 'shim'

**Step 15: Replace the M2 x 5mm Torx head screw**



**Step 16: Test the product.**

Test whether the accessory connects to the radio correctly and can PTT and receive audio without difficulty

**Troubleshooting**

Please log all problems on the Tech Issues database via - [www.taitworld.com/support](http://www.taitworld.com/support)

### **3. Issuing authority**

**Name and position  
of issuing officer**

Barry Crates  
Senior Customer Support Engineer