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## Technical Note TN-649

### Tait Orca Portable 66-88Mhz SMA Antenna Connector

28<sup>th</sup> November 2000

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#### Applicability

This technical note only applies to the 66 – 88Mhz Tait Orca Portable radios with regards to the testing of those radios.

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## 1. Introduction

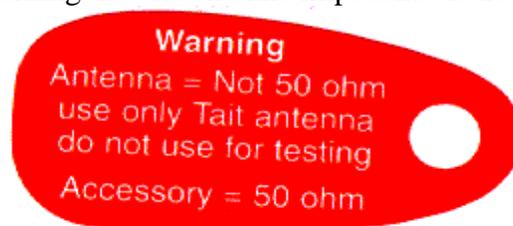
#### Background

Traditionally in RF applications, the antenna matching is designed to work at 50Ω. However, during the development of the Tait Orca 66-88Mhz product, it was discovered that if the radio were to have a 50Ω termination, the antenna required to work at the desired frequency range would be too large and impractical.

Research into alternative methods of design to reduce the size of the antenna required proved that using a **100Ω** antenna would dramatically reduce the size of the antenna used.

However, the introduction of a 100Ω antenna means that the technical staff servicing the product need to be aware of this fact and need to know what equipment is required to calibrate the radio correctly. If not, the servicing / calibration of the radio will be incorrect and could possibly cause **damage** to the radio.

All 66 – 88Mhz radios have a **red** label attached to the SMA connector warning that the antenna impedance is not 50Ω.



## 2. TOPA-SV-A07 Test Lead.

**What is required?**

As mentioned on the label above, the accessory connector of the Tait Orca 66 – 88Mhz radio is still 50Ω. Therefore, servicing and calibration can still be performed out in the field, providing the correct equipment is used.

The TOPA-SV-A07 is the calibration cable used to calibrate the Tait Orca Products. The output matching on the accessory connector is still 50Ω, so calibration or radio servicing can be done from this port. The flying RF lead made available to the user can be plugged directly into 50Ω test equipment.

## 3. Issuing authority

**Name and position of issuing officer**

Barry Crates  
Mobiles Customer Support Engineer