



**TP9500, TP9600  
Intrinsically  
Safe Portable  
Radios**



# **tait TP9500, TP9600 Intrinsically Safe Portable Radios Owner's Manual**

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**tait TP9500, TP9600 Intrinsically Safe Portable Radios**



## Product Usage Instructions

Before using the radio, please read the important safety and compliance information provided below:

- Radios and accessories with IS/NI certification are designed for use in hazardous locations or potentially explosive atmospheres. Follow these guidelines:
- Ensure the product is used by instructions for IS/NI certification.
- Check equipment labels to verify compatibility with your hazardous location.
- Use only Tait-supplied, IS/NI-approved accessories to prevent explosion hazards.
- IS circle logo on the radio's front panel
- Label on the radio showing IS/NI information
- Label on the radio battery showing IS/NI information

## FAQ

- **Q:** How can I verify if my radio is Intrinsically Safe (IS) or Non-Incendive (NI)?
- **A:** Look for the IS circle logo on the radio's front panel or check the labels on the radio and battery for IS/NI information.
- **Q:** Can I use any accessories with my IS/NI radio?
- **A:** No, only use Tait-supplied, IS/NI-approved accessories to prevent explosion hazards and ensure safety.

**Important:** Read carefully before use. Keep it for future reference. For the latest user documentation, visit <https://partnerinfo.taitcommunications.com>

## Safety and compliance information

- Before using your radio, please read the following important safety and compliance information.
- Text of controlled document DRAFT 401-00150-01 starts here.

### Intrinsically Safe and Non-Incendive radios and accessories


Intrinsically Safe (IS) and Non-Incendive (NI) radios and accessories are certified by a third party to be in compliance with the published IEC and EN standards for equipment meant for use in particular hazardous locations, or in potentially explosive atmospheres.

- **Warning** Explosion hazard! IS/NI certification applies only while the product is used under these instructions.
- **Warning** Explosion hazard! Ensure that the ratings printed on a label on the equipment will permit your IS/NI radio and accessories to be used in your hazardous location. Refer also to “Rating matching”.
- **Warning** Explosion hazard! Use only a Tait-supplied, IS/NI-approved battery, charger, antenna, or audio accessory with an IS/NI radio. Fitting a battery or accessory that is not IS/NI-approved, or using a charger that is not IS/NI-approved creates a risk of explosion which could cause serious injury or death. For an up-to-date list of approved accessories, contact your regional Tait office.
- **Warning** Explosion hazard! Do not charge the battery, change the antenna, battery, or audio accessory, or allow any other antenna port connection in a hazardous location. An explosion could cause serious injury or death.

IS/NI radios, batteries, antennas, and accessories must not be engraved or modified in any way. Do not use the radio, battery or accessory if it is cracked or damaged. Do not use the antenna if the sheathing is split or the end cap is missing. Do not expose the radio to solvents. IS/NI radios and accessories must be serviced only by an agency certified by both the approval authority and by Tait International Limited. Any unauthorized repair or substitution of parts invalidates the IS/NI rating and the third-party IS/NI approval. To have an IS/NI radio serviced, return it to your regional Tait office.

## Radios

One or more of the following marks identifies a TP9500/TP9600 radio as an IS/NI radio:

- an IS circle logo  on the radio's front panel
- a label on the radio, showing IS/NI information
- a label on the radio battery, showing IS/NI information

Radios with the product code “T03-25xxx-xx” have IS/NI approval and are approved to one or several of the following ratings. Refer also to “Rating matching” on the facing page.

- Class I, Division 1, Group C, D, T3C (USA TIA-4950-A)
- Class II, Division 1, Group E, F, G, T3C (USA TIA-4950-A)
- Class I, Division 2, Group A, B, C, D, T3C
- Class II, Division 2, Group E, F, G, T3C
- Class III, Division 1

## Batteries

- The following batteries have been approved for use with TP9500/TP9600 IS/NI portable radios.
- Refer also to “Rating matching” on the facing page.

Description	Product code
Li-Ion, 2300mAh, TPG Division 1	T03-25001-AAAA

**Warning** Use of a newly marked Division 1 rated battery on an old AEx IIA/Division 2 radio does not change the rating of the radio.

## Chargers

Chargers are common to IS and NI batteries. The chargers for IS/NI batteries are marked with an IS circle logo




and have the product code:

- T03-22011-xAxx (AEx, Canada and Class I, Division 1)
- You must use these chargers with an IS/NI battery, as their internal circuitry provides additional protection for the IS circuitry in the battery and radio.
- **Warning** Explosion hazard! Do not use the charger in a hazardous location. An explosion could cause serious injury or death.
- Notice The IS/NI battery can only be charged in the chargers identified above. It will not charge in other
- TP8100/TP9300/TP9400 chargers. However, the chargers identified above can charge non-IS
- TP8100/TP9300/TP9400 batteries.
- The operating temperature range for the charger is +32°F to +104°F (0°C to +40°C).

## Audio accessories

One or more of the following marks identifies a TP9500/TP9600 audio accessory as an IS/NI audio accessory:

- an IS circle logo  on the audio accessory
- a label on the audio accessory, showing IS/NI information

The TP9500/TP9600 IS-approved audio accessories have the following product code: T03-25008-xxxx. Refer also to “Rating matching” below.

## Antenna

- Use only genuine Tait-supplied antennas. Antennas are not specifically rated and may be used in any area, subject to the rating restrictions of the overall radio system.

## Antenna port connections in a non-hazardous area

Antenna port connections are permitted under the following conditions:

- The radio being tested can only be powered by a correctly rated battery.
- The connection must be a direct coaxial cable connection between radio and radio frequency test equipment, such as a communication test set.
- Any AC-powered test equipment being used must have a valid Portable Appliance Test (PAT) certificate.
- Connection and measurement must only be carried out by a qualified technician.

**Warning** Explosion hazard! Do not change antenna port connections in a hazardous location.

**Equipment repair**

Warning Explosion hazard! IS/NI radios and accessories are not user-serviceable. IS and NI radios and accessories must be serviced only by an agency certified by both the approval authority and by Tait International Limited. Any unauthorized repair or substitution of parts invalidates the intrinsic safety or non-incendive rating and the third-party IS or NI approval.

To have an IS and NI radio serviced, return it to your regional Tait office.

**Rating matching**

- The rating of the radio, battery, and accessories must be reviewed to ensure a safe IS/NI radio system. IS/NI ratings must be “matched”, and the lowest approval level determines the overall IS/NI radio system approval.
- Equipment labels identify the item’s ratings.

**Division ratings**

- Division 2-rated radios and accessories may only be used in Division 2 hazardous (classified) locations.
- Division 1-rated radios and accessories may be used in Division 1 or Division 2 hazardous (classified) locations.
- Use only Tait-approved Division 1-rated batteries and accessories with Tait Division 1-rated radios.

**Entity parameters**

The Entity Concept allows interconnection of IS/NI equipment with associated equipment when the following is true:

$U_i \geq U_o$ ,  $I_i \geq I_o$ ,  $P_i \geq P_o$ ,  $C_i \leq C_o$ ,  $L_i \leq L_o$ , and  $L_i/R_i \leq L_o/R_o$ .

The installation must be per the following standards:

- National Electrical Code (NEC), ANSI/NFPA 70, Articles 504 and 505
- Canadian Electrical Code (CEC) Part I, CAS C22.1
- ANSI/ISA-RP12.06.01
- relevant local regulations.

TP9500/TP9600 IS/NI radios have the following entity parameters. Radio accessory port:

<ul style="list-style-type: none"> <li>• <math>U_o</math>: 8.4V</li> <li>• <math>I_o</math>: 0.85A</li> <li>• <math>P_o</math>: 7.14W</li> </ul>	<ul style="list-style-type: none"> <li>• <math>C_o</math>: 5μF</li> <li>• <math>L_o</math>: TBC</li> <li>• <math>L_o/R_o</math>: TBC</li> </ul>
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## Standards

- ANSI/ISA-12.12.01-2015
- ANSI/TIA-4950\_B-2020
- CAN/CSA-C22.2 No. 213-15

Text of controlled document DRAFT 401-00150-01 ends here.

## Listening at a safe level



- Listening at high volumes can cause hearing damage. Always reduce the volume to a comfortable listening level.

## Radiofrequency exposure information



- For your own safety and to ensure you comply with the radio frequency (RF) exposure guidelines of the United States Federal Communication Commission (FCC), Industry Canada, and those from other administrations, please read the following information before using this radio.

## Using this radio

You should use this radio only for work-related purposes (it is not authorized for any other use) and if you are fully aware of, and can exercise control over, your exposure to RF energy. To prevent exceeding RF exposure limits, you must control the amount and duration of RF that you and other people are exposed to.

It is also important that you:

- Do not remove the RF exposure label from the radio.
- Ensure this RF exposure information accompanies the radio when it is transferred to other users.
- Do not use the radio if you do not adhere to the guidelines on controlling your exposure to RF.

## Controlling your exposure to RF energy

This radio emits radio frequency (RF) energy or radio waves primarily when calls are made. RF is a form of electromagnetic energy (as is sunlight), and there are recommended levels of maximum RF exposure. To control your exposure to RF and comply with the maximum exposure limits for occupational/controlled environments, follow these guidelines:

- Do not talk (transmit) on the radio more than the rated transmit duty cycle. This is important because the radio radiates more energy when it is transmitting than when it is receiving.
- When listening and talking on the radio, hold it upright in front of your face so that it is at least one inch (2.5cm) away from any part of your face. Keeping the radio at the recommended distance is important because exposure to RF decreases rapidly the further away the antenna is from your body.
- Keep the antenna at least one inch (2.5cm) from your face at all times.
- If you wear your radio, you must always put it in a carrying accessory that has been specifically approved by

Tait for this radio. Using non-approved body-worn accessories may mean you expose yourself to higher levels of RF than recommended by occupational/controlled environment RF exposure limits.

- Ensure you only use Tait-approved antennas, batteries, and accessories.

For more information on what RF energy is and how to control your exposure to it, visit the FCC website at [www.fcc.gov/oet/rfsafety/rf-faqs.html](http://www.fcc.gov/oet/rfsafety/rf-faqs.html).

### **Compliance with RF energy exposure standards**

This two-way radio complies with these RF energy exposure standards and guidelines:

- United States Federal Communications Commission, Code of Federal Regulations (CFR) Title 47 Parts 1.1307, 1.1310, and 2.1093.
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) C95.1-1999.
- Institute of Electrical and Electronic Engineers (IEEE) C95.1-1999 & ARPANSA Edition.
- European Directive 2013/35/EU on minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (electromagnetic fields).

This radio complies with the IEEE and ICNIRP exposure limits for occupational/controlled RF exposure environments at operating duty factors of up to 50% talk to 50% listen.

## **FCC STATEMENT**

### **Radiofrequency Emissions Limits in the USA**

#### **CFR Title 47 Part 15.19 (a) (1) – Receivers**

- Part 15 of the FCC Rules imposes RF emission limits on receivers.
- This radio complies with Part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

#### **CFR Title 47 Part 15.19 (a) (3) – All Others**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions.

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

### **Radio Frequency Emissions Limits in Canada**

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

1. this device may not cause interference, and
2. this device must accept any interference, including interference that may cause undesired operation of the device.

### **USA public safety bands (764-776MHz and 794-806MHz)**

- The Code of Federal Regulations (CFR) Title 47 Subpart R deals with the use of frequencies in the 764 to 776MHz and 794 to 806MHz bands.

### **Low-power channels**

- This radio complies with CFR Title 47 Parts 90.531 (b) (3) and 90.531 (b) (4). These sections state that only low-power transmission is permitted on the following channels:
- Regional Planning channels, as defined in Part 90.531 (b) (3).
- Itinerant channels, as defined in Part 90.531 (b) (4).

### **Use of encryption**

This radio complies with CFR Title 47 Part 90.553 (a). This section states that:

- Encryption is not permitted on the nationwide Interoperability calling channels. These channels are defined in Part 90.531 (b) (1) (ii).
- Radios using encryption must have a readily accessible switch or control to allow the radio user to disable encryption.

### **Frequency band reserved for distress beacons**

Frequency band 406 to 406.1 MHz is reserved for use by distress beacons. Transmissions should not be made within this frequency band.

### **Interference with electronic devices**

**Warning** Some electronic devices may be prone to malfunction due to a lack of protection from the RF energy that is present when your radio is transmitting.

Examples of electronic devices that may be affected by RF energy are:

- aircraft electronic systems
- vehicular electronic systems such as fuel injection, anti-skid brakes, and cruise control
- medical devices such as pacemakers and hearing aids
- medical equipment in hospitals or health care facilities.

Switch off the radio before boarding an aircraft. Using your radio while in the air is not permitted.

Consult the manufacturer (or its representative) of any such electronic devices to determine whether electronic circuits in those devices will perform normally when the radio is transmitting.

### **Warning If you have a pacemaker:**

- immediately turn off the radio if you suspect it is interfering with the pacemaker
- keep the radio at least 6 inches (15cm) from the pacemaker while the radio is on
- use the radio on the side opposite to the pacemaker to minimize interference
- never carry the radio in a breast pocket

If there is interference between your hearing aid and the radio, please discuss an alternative solution with the hearing aid manufacturer.



## Radio installation and operation in vehicles

- **Warning** Keep the radio away from airbags and airbag deployment areas. Do not install, charge, or place a radio near such areas. An activated airbag can propel radio equipment with sufficient force to cause serious injury to vehicle occupants. An airbag may not perform to specification if obstructed by radio equipment.
- **Warning** To avoid damage to existing wiring, airbags, petrol tanks, fuel and brake lines, or battery cables, refer to the vehicle manufacturer's manual, before installing electronic equipment in the vehicle.
- Using a radio while driving a vehicle may violate the laws and legislation that apply in your country or state.
- Please check the vehicle regulations in your area.
- Do not leave the radio in direct sunlight for extended periods.
- **Notice** This radio is not intended for permanent outdoor installation.

## Vehicle charger installation and operation

- For detailed instructions necessary to the safe installation and operation of the vehicle charger, please refer to the documentation supplied with the vehicle charger.

## Unapproved modifications or changes to the radio

- The radio is designed to satisfy the applicable compliance regulations.
- Do not make modifications or changes to the radio that are not expressly approved by Tait International Limited.
- Failure to do so could invalidate compliance requirements and void the user's authority to operate the radio.

## Engraving and modification of Intrinsically Safe and Non-Incendive radios

**Warning** Intrinsically Safe (IS) and Non-Incendive (NI) radios and batteries must not be engraved or modified in any way. For more information on IS and NI radios refer to "Intrinsically Safe and Non-Incendive radios and accessories"

## Attaching of labels

**Warning** Do not obstruct the vent hole on the battery or the vent hole on the radio chassis label.

If the vent on the battery is obstructed the battery may explode, causing personal injury and/or damage to property. If the vent on the radio is obstructed, audio quality and/or key function may deteriorate and radio seals may be damaged.

**Notice** Tait International Limited recommends that you do not affix additional labels to the surfaces between the radio chassis and the battery. The fit between these surfaces is intentionally firm and any added thickness will damage the points of attachment between the radio and the battery. If you must attach a customized label, use only a thin gummed paper label applied to the bottom 25% of the radio chassis label and/or to the top 25% of the battery label. Do not obstruct the vent holes (see Warning above)! Do not allow the paper label to extend beyond the recessed label area or to conceal relevant product information.

## Use of lithium-ion batteries

**Warning** A damaged battery can cause an explosion or fire, and can result in personal injury and/or property damage. To prevent personal injury and/or damage to property, read the important safety information supplied with the battery and charger.

After exposure to moisture, ensure the radio and battery are wiped dry before charging.

## Short-circuiting battery contacts

**Warning** Do not short-circuit the battery contacts, neither intentionally nor accidentally, e.g. by placing the battery with conductive materials such as keys or jewelry inside a pocket or container. Short-circuiting the battery contacts can heat up the conductive material and cause personal injury and/or damage to property.

## Contact Information

### Tait Communications

- Corporate Head Office
- Tait International Limited P.O. Box 1645 Christchurch New Zealand
- Imported into the EU by Tait Communications GmbH Strozzigasse 10/14 Vienna 1080 Austria
- Imported into the UK by Tait Europe Limited Unit A, Buckingway Business Park Anderson Road Swavesey Cambridge, CB24 4UQ United Kingdom
- For the address and telephone number of regional offices, refer to our website:  
[www.taitcommunications.com](http://www.taitcommunications.com)

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[www.taitcommunications.com/our-resources/legal#Tait\\_Software\\_Licence\\_Agreement](http://www.taitcommunications.com/our-resources/legal#Tait_Software_Licence_Agreement)

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## Enquiries and Comments

- If you have any inquiries regarding this document, or any comments, suggestions and notifications of errors, please contact your regional Tait office.

## Updates of Manual and Equipment

- In the interests of improving the performance, reliability or servicing of the equipment, Tait International Limited

reserves the right to update the equipment or this document or both without prior notice.

## Intellectual Property Rights

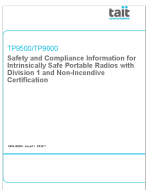
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## Environmental Responsibilities

- Tait International Limited is an environmentally responsible company that supports waste minimization, material recovery, and restrictions in the use of hazardous materials. The European Union's Waste Electrical and Electronic Equipment (WEEE)
- Directive and UK WEEE Regulation 2013 requires that this product be disposed of separately from the general waste stream when its service life is over. For more information about how to dispose of your unwanted Tait product, visit the Tait WEEE website at [www.taitcommunications.com/our-resources/compliance#WEEE](http://www.taitcommunications.com/our-resources/compliance#WEEE). Please be environmentally responsible and dispose through the original supplier, or contact Tait International Limited.
- Tait will comply with environmental requirements in other markets as they are introduced.



## Documents / Resources

	<a href="#">tait TP9500, TP9600 Intrinsically Safe Portable Radios</a> [pdf] Owner's Manual TPGB1B, CASTPGB1B, TP9500 TP9600 Intrinsically Safe Portable Radios, TP9500 TP9600, I ntrinsically Safe Portable Radios, Safe Portable Radios, Portable Radios, Radios
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## References

- [User Manual](#)

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