

2 Health and Safety Information

This chapter describes:

- hazards associated with using the MDT
- hazards associated with servicing the MDT.

2.1 Hazards During Use of the MDT

The following precautions apply to the radio and antenna that are integral parts of the working MDT installation.

**WARNING RF RADIATION**

DO NOT ALLOW ANY PART OF YOUR BODY TO COME WITHIN 0.5 m OF THE ANTENNA FOR MORE THAN A FEW MINUTES WHILE THE RADIO IS TRANSMITTING, UNLESS THERE IS AN INTERVENING METAL SCREEN.

WARNING RF BURNS

DO NOT TOUCH THE ANTENNA WHILE THE RADIO IS TRANSMITTING.

WARNING RISK OF EXPLOSION

SWITCH THE RADIO OFF BEFORE ENTERING FUEL FILLING STATIONS. DO NOT OPERATE THE RADIO WHEN LOCATED AT A FUEL FILLING STATION.



SWITCH THE RADIO OFF WHEN IN THE VICINITY OF EXPLOSIVE DEVICES. DO NOT OPERATE THE RADIO WHEN IN THE VICINITY OF EXPLOSIVE DEVICES (such as in a quarry that uses blasting techniques).

Responsible operation of MDT



The legislation relating to the operation of an MDT while driving varies from country to country. Make sure that you are aware of, and accord with, the legislation in your region, state or country. If in doubt, do not operate the MDT while driving.

2.2 Hazards During Service of the MDT



2.2.1 Caution: CMOS Devices

This equipment contains CMOS Devices which are susceptible to damage from static charges. Care when handling these devices is essential. For correct handling procedures refer to the manufacturers' data books, e.g. Philips data books covering CMOS devices, or Motorola CMOS data books, Section 5 'Handling', etc.

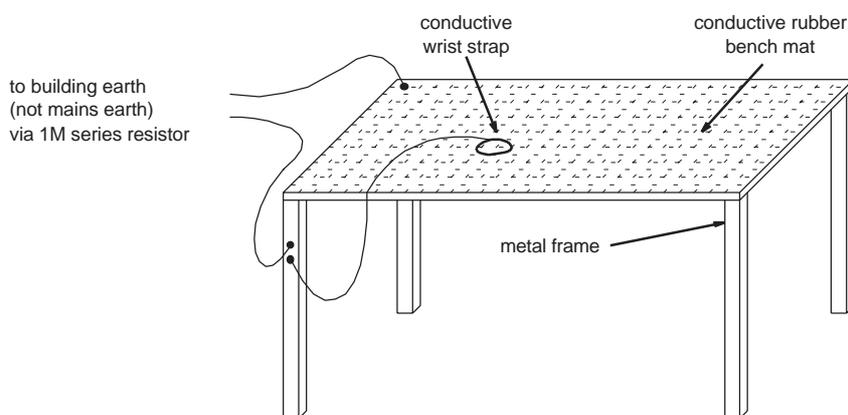


Figure 2.1 Typical Antistatic Bench Setup

An antistatic bench kit (refer to Figure 2.1) is available from Tait Electronics Ltd under the usual consumable goods ordering system. The kit is held in stock under IPN 937-00000-34 and contains:

- 1 conductive rubber bench mat
- 1 earth lead to connect the mat to ground (c/w 1M series resistor)
- 1 wrist strap
- information leaflet.

2.2.2 Lithium Batteries

The T610 MDT contains a coin-type lithium battery to provide standby power to the non-volatile RAM. Special precautions must be taken when handling lithium batteries, for example when exchanging a flat battery for a new one.

2.2.2.1 Battery Handling

**WARNING: RISK OF EXPLOSION**

LITHIUM BATTERIES CONTAIN INFLAMMABLE MATERIALS SUCH AS LITHIUM, ORGANIC SOLVENT AND OTHER CHEMICAL REAGENTS. CARELESS HANDLING OF LITHIUM BATTERIES CAN RESULT IN HEAT GENERATION, EXPLOSION AND/OR FIRE.

When handling lithium batteries, observe the following precautions:

- **In the event of a lithium battery-fire, use dry sands to extinguish.** Do not use water, since the chemical reaction that occurs on contact between lithium and water can accelerate the fire.
- **Do not stack or jumble the batteries,** since this can cause short-circuiting, leading to highly intense current flows and accompanying heat generation.

Short-circuiting occurs when contact occurs between positive and negative terminals, or when the terminals contact a metal surface. To prevent short-circuiting, ensure that designated containers are used to transport and store batteries.

- **Do not heat the batteries.** Heat in excess of 100°C (212°F) damages the resin used at the sealing sections, separator and other areas of the battery. This can cause electrolyte leakage or internal short-circuiting, resulting in heat generation, explosion or fire.
- **Do not dispose of lithium batteries in fire.** Disposing of lithium batteries in fire can cause explosion.
- **Do not solder directly to the batteries.** The heat generated when soldering may be sufficient to damage the resin used at the sealing sections, separator and other areas of the battery. This can cause electrolyte leakage or internal short-circuiting, resulting in heat generation, explosion or fire.
- **Do not attempt to recharge the batteries.** Recharging can cause gas to be generated inside the battery, resulting in swelling, explosion or fire.
- **Do not disassemble the batteries.** Gas generated during disassembly is irritating to the throat. In addition, lithium can generate heat and ignite.
- **Do not apply pressure to, or deform, the batteries.** Pressure on the batteries can deform the sealing sections. This can cause electrolyte leakage or internal short-circuiting, resulting in heat generation, explosion or fire.
- **Do not mix different types of batteries within applications.** Mixing different types of batteries, or fitting new batteries beside old batteries, causes some batteries to overdischarge, creating hazards of swelling or explosion.
- **Insert the batteries' +/- terminals correctly.** Batteries that are fitted with the +/- incorrectly aligned can cause short-circuiting (depending on the device). In addition heat generation, explosion or fire can result.



2.2.2.2 Contact with Antistatic Conductive Materials

Contact between the terminals of a lithium battery and any conductive material (including antistatic, conductive materials) causes the battery to discharge.

Antistatic, conductive materials may be present during servicing of the MDT to protect the internal circuitry from static damage. Antistatic, conductive materials include packing bags, trays, mats, sheets, film and resin cases. Contact between certain antistatic materials and the positive and negative terminals of a battery, discharges the battery. In a lithium battery, a current flow of several μA to several mA reduces its voltage and electrical capacity. Constant attention is recommended when using batteries in the proximity of antistatic materials.

2.2.3 Surface Mount Devices



Caution:

Surface mount devices (SMDs) require special storage, handling, removal and replacement techniques. This equipment should be serviced only by an approved Tait Dealer or Service Centre equipped with the necessary facilities. Repairs attempted with incorrect equipment or by untrained personnel may result in permanent damage. If in doubt, contact Tait Electronics Ltd or your nearest Tait Branch or Subsidiary.

END OF CHAPTER 2