

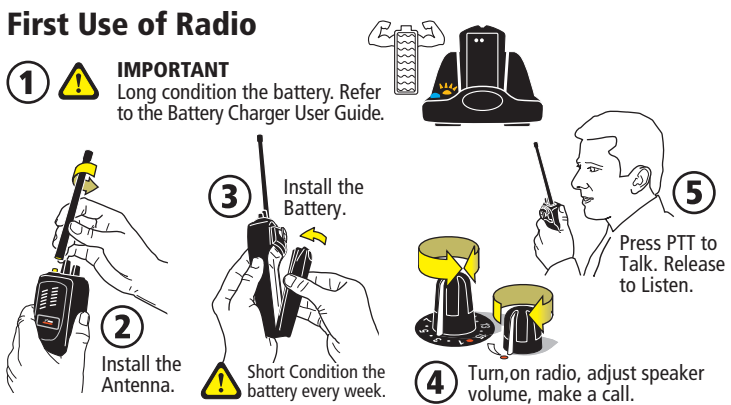
# Getting Started

**Radio Configuration**  
 Your Tait Orca radio has been configured for your requirements by your authorised Tait Dealer or your company administrator. Therefore, some functions will vary in operation or will not be available. The configuration information can be written onto this User Guide. For more information on trunking call functions, contact your Network Operator.

**Parts**  
 If any parts are damaged or missing, report this to your authorised Tait dealer immediately.

**First Use of Radio**

- IMPORTANT** Long condition the battery. Refer to the Battery Charger User Guide.
- Install the Antenna.
- Install the Battery. Short Condition the battery every week.
- Turn on radio, adjust speaker volume, make a call.
- Press PTT to Talk. Release to Listen.



# Making Calls

**Standard Operation**  
 Illustration shows the recommended method for standard operation. Use the upper microphone to speak.

**Handset mode**  
 Illustration shows the recommended method for use in handset mode. Use the lower microphone to speak.

**16-way Selector**  
 The selector uses the presets numbered 1 to 16

To make the call, short press PTT.

Turn the selector to Cancel the call

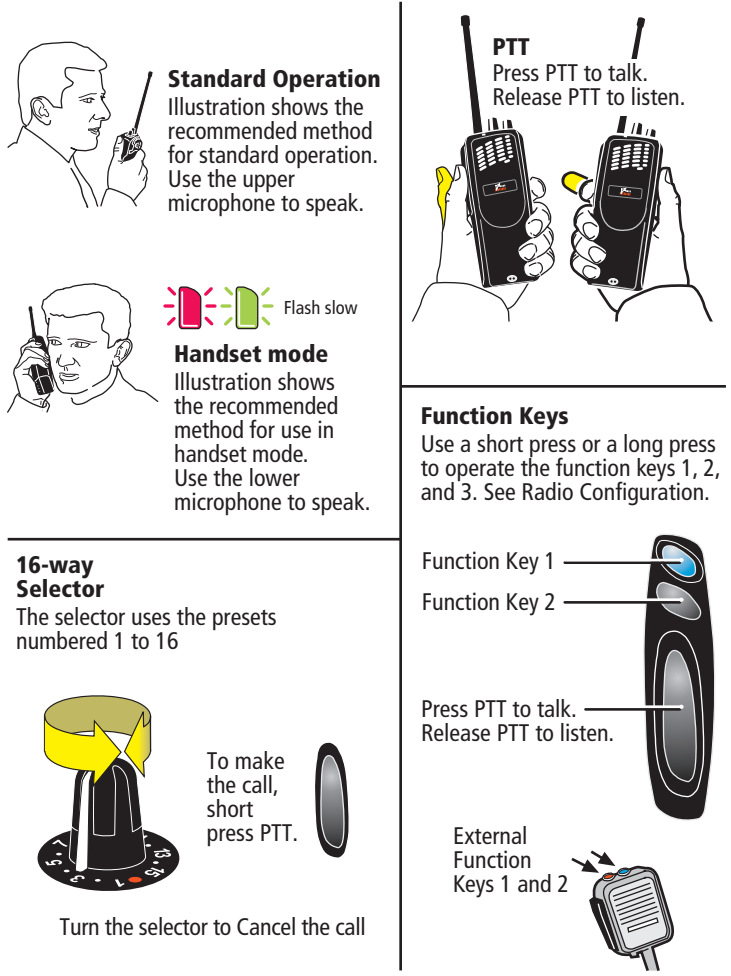
**PTT**  
 Press PTT to talk. Release PTT to listen.

**Function Keys**  
 Use a short press or a long press to operate the function keys 1, 2, and 3. See Radio Configuration.

Function Key 1  
 Function Key 2

Press PTT to talk. Release PTT to listen.

External Function Keys 1 and 2



# Indicators

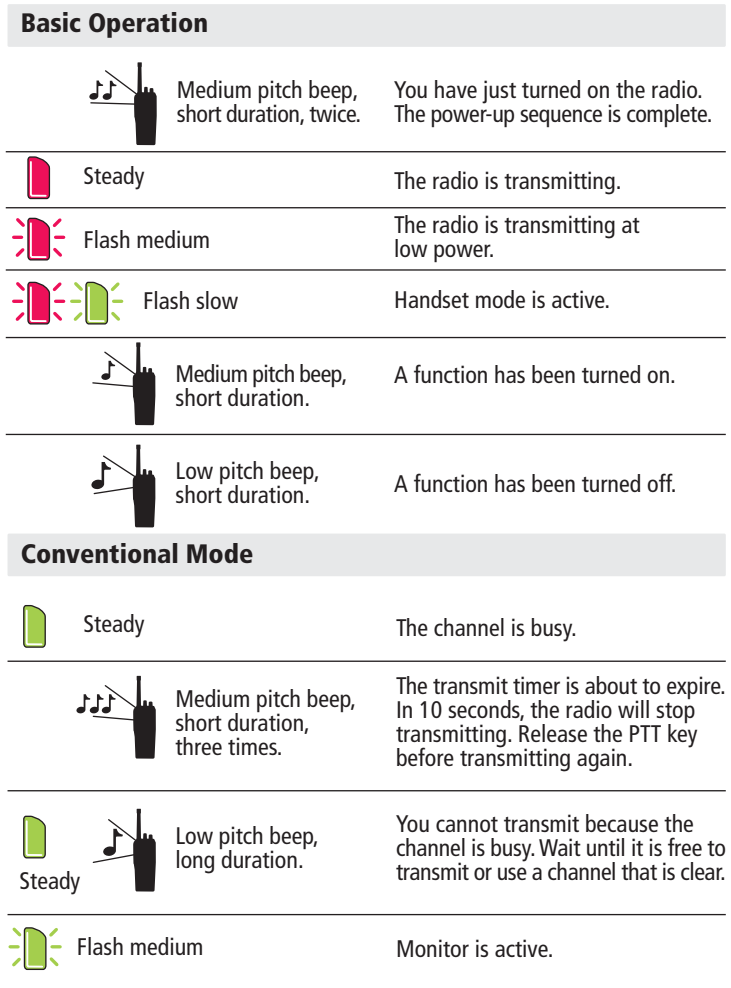
Slow flash = every 2 seconds  
 Medium flash = every 1 second  
 Fast flash = four per second

**Basic Operation**

- Medium pitch beep, short duration, twice. You have just turned on the radio. The power-up sequence is complete.
- Steady. The radio is transmitting.
- Flash medium. The radio is transmitting at low power.
- Flash slow. Handset mode is active.
- Medium pitch beep, short duration. A function has been turned on.
- Low pitch beep, short duration. A function has been turned off.

**Conventional Mode**

- Steady. The channel is busy.
- Medium pitch beep, short duration, three times. The transmit timer is about to expire. In 10 seconds, the radio will stop transmitting. Release the PTT key before transmitting again.
- Low pitch beep, long duration. You cannot transmit because the channel is busy. Wait until it is free to transmit or use a channel that is clear.
- Flash medium. Monitor is active.



# Radio Configuration

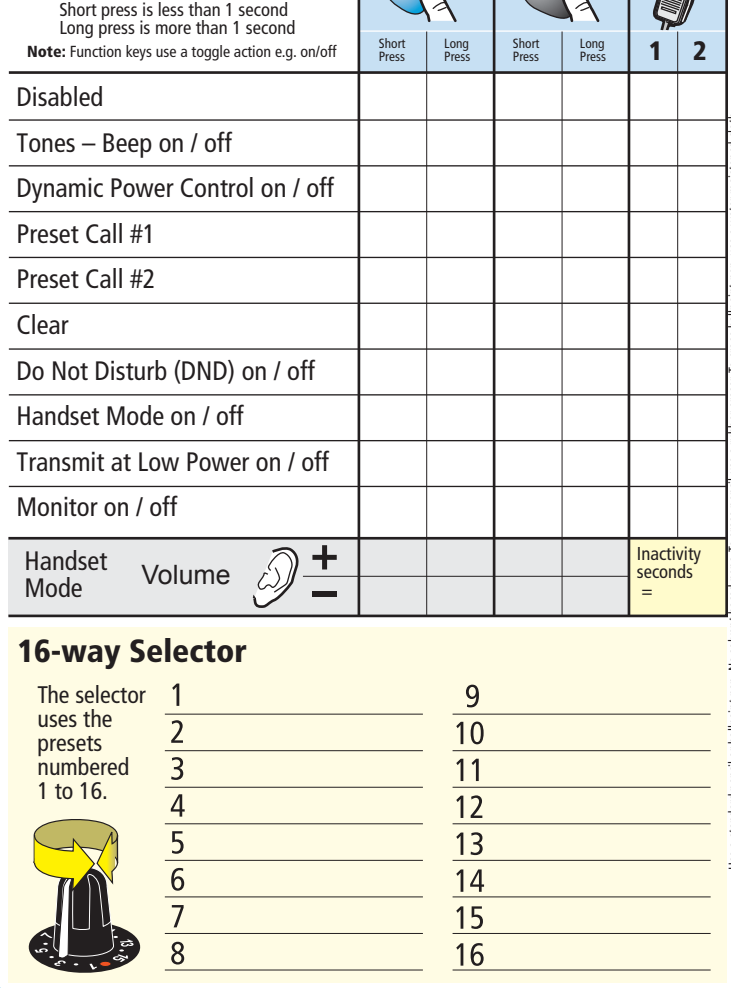
Write your settings

	F1		F2		External	
	Short Press	Long Press	Short Press	Long Press	1	2
Disabled						
Tones – Beep on / off						
Dynamic Power Control on / off						
Preset Call #1						
Preset Call #2						
Clear						
Do Not Disturb (DND) on / off						
Handset Mode on / off						
Transmit at Low Power on / off						
Monitor on / off						
Handset Mode		Volume				Inactivity seconds

**16-way Selector**

The selector uses the presets numbered 1 to 16.

1	9
2	10
3	11
4	12
5	13
6	14
7	15
8	16



# Main Items

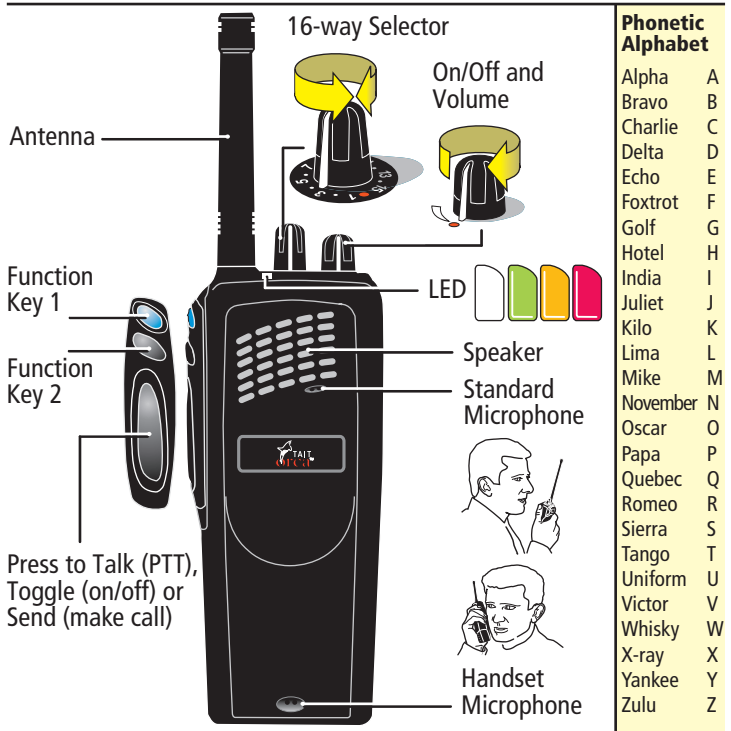
Antenna  
 16-way Selector  
 On/Off and Volume  
 LED  
 Speaker  
 Standard Microphone  
 Handset Microphone

Function Key 1  
 Function Key 2

Press to Talk (PTT), Toggle (on/off) or Send (make call)

**Phonetic Alphabet**

Alpha	A
Bravo	B
Charlie	C
Delta	D
Echo	E
Foxtrot	F
Golf	G
Hotel	H
India	I
Juliet	J
Kilo	K
Lima	L
Mike	M
November	N
Oscar	O
Papa	P
Quebec	Q
Romeo	R
Sierra	S
Tango	T
Uniform	U
Victor	V
Whisky	W
X-ray	X
Yankee	Y
Zulu	Z



Radio Identification	Notes
Prefix #    Fleet #    Radio ID #	
Group Information	Emergency Call Numbers

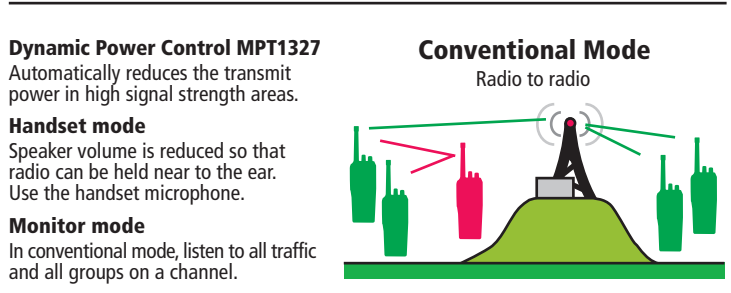
# Modes

**Dynamic Power Control MPT1327**  
 Automatically reduces the transmit power in high signal strength areas.

**Handset mode**  
 Speaker volume is reduced so that radio can be held near to the ear. Use the handset microphone.

**Monitor mode**  
 In conventional mode, listen to all traffic and all groups on a channel.

**Conventional Mode**  
 Radio to radio



# Groups

**Group Calls**  
 Broadcast Call – Group members can listen but not respond.  
 Conference Call – Group members can listen and respond.  
 A user can be assigned to some groups, all groups or no groups.  
 Trunked – Permanent groups are set by the trunking system. Persons are assigned when the radio is configured.

**Temporary Groups**  
 A user can become a member of a group temporarily by selecting the group or when the dispatcher assigns the user to a group.

**Group Call Limitations**  
 Sender has no indication of how many group members have received the call. No connection acknowledgment. Need the recipient to acknowledge by voice. Radios that are off, out of range, or engaged will not receive.

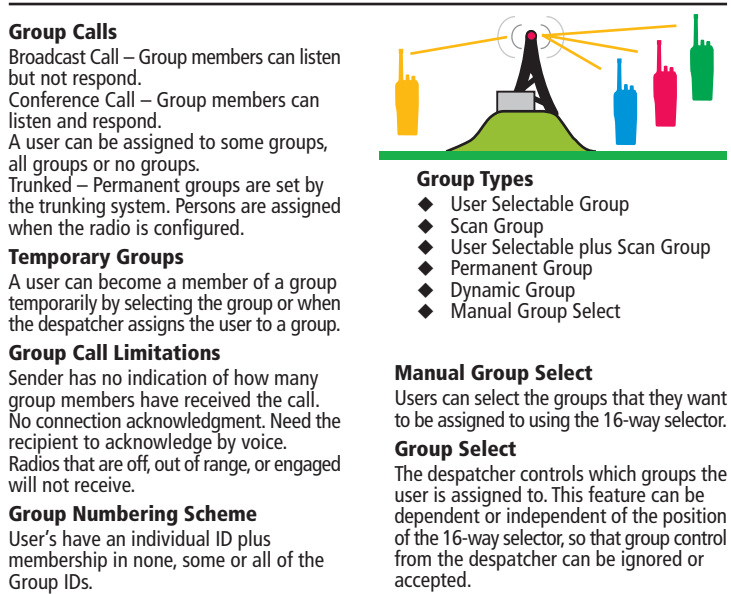
**Group Numbering Scheme**  
 User's have an individual ID plus membership in none, some or all of the Group IDs.

**Group Types**

- User Selectable Group
- Scan Group
- User Selectable plus Scan Group
- Permanent Group
- Dynamic Group
- Manual Group Select

**Manual Group Select**  
 Users can select the groups that they want to be assigned to using the 16-way selector.

**Group Select**  
 The dispatcher controls which groups the user is assigned to. This feature can be dependent or independent of the position of the 16-way selector, so that group control from the dispatcher can be ignored or accepted.

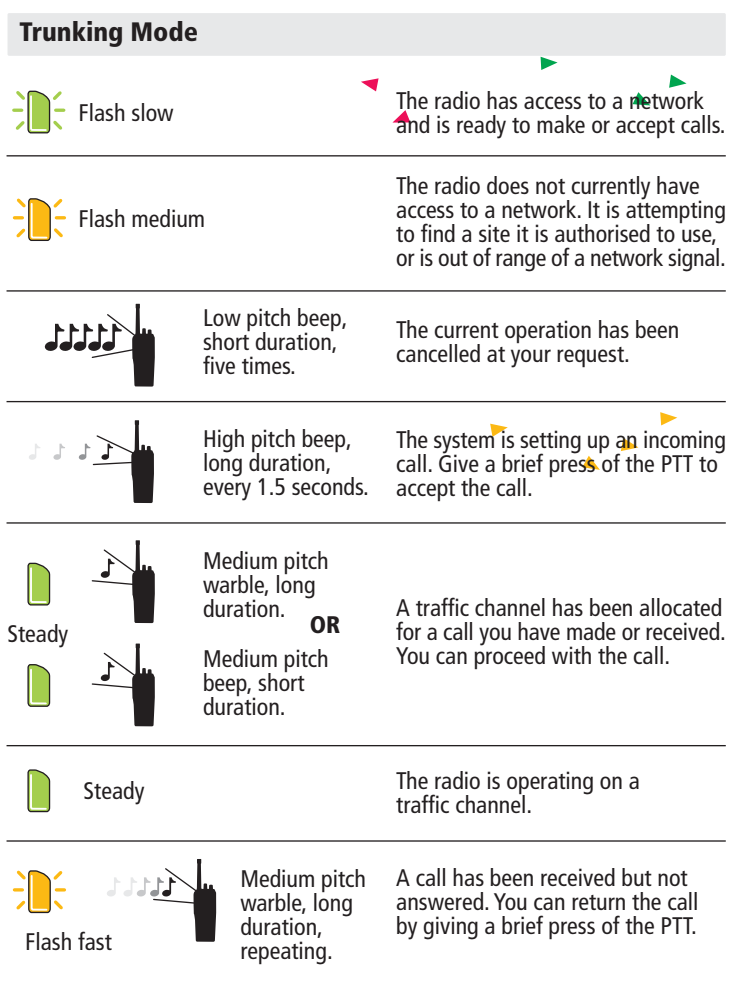


# Indicators

Slow flash = every 2 seconds  
 Medium flash = every 1 second  
 Fast flash = four per second

**Trunking Mode**

- Flash slow. The radio has access to a network and is ready to make or accept calls.
- Flash medium. The radio does not currently have access to a network. It is attempting to find a site it is authorised to use, or is out of range of a network signal.
- Low pitch beep, short duration, five times. The current operation has been cancelled at your request.
- High pitch beep, long duration, every 1.5 seconds. The system is setting up an incoming call. Give a brief press of the PTT to accept the call.
- Medium pitch warble, long duration. OR Medium pitch beep, short duration. A traffic channel has been allocated for a call you have made or received. You can proceed with the call.
- Steady. The radio is operating on a traffic channel.
- Flash fast. Medium pitch warble, long duration, repeating. A call has been received but not answered. You can return the call by giving a brief press of the PTT.

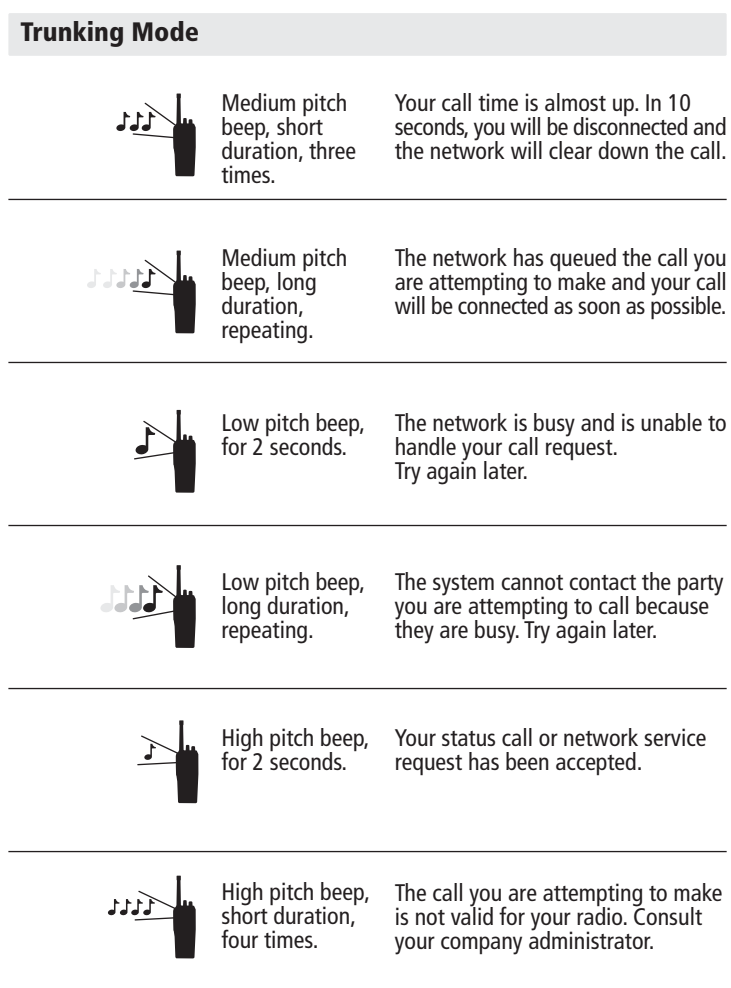


# Indicators

Slow flash = every 2 seconds  
 Medium flash = every 1 second  
 Fast flash = four per second

**Trunking Mode**

- Medium pitch beep, short duration, three times. Your call time is almost up. In 10 seconds, you will be disconnected and the network will clear down the call.
- Medium pitch beep, long duration, repeating. The network has queued the call you are attempting to make and your call will be connected as soon as possible.
- Low pitch beep, for 2 seconds. The network is busy and is unable to handle your call request. Try again later.
- Low pitch beep, long duration, repeating. The system cannot contact the party you are attempting to call because they are busy. Try again later.
- High pitch beep, for 2 seconds. Your status call or network service request has been accepted.
- High pitch beep, short duration, four times. The call you are attempting to make is not valid for your radio. Consult your company administrator.



Use a standard pencil or ballpoint pen. No solvent based pens. To erase pencil use a rubber eraser. To erase ballpoint pen, use a water moistened cloth.



# Batteries

## Batteries

NiCd batteries are the preferred choice for shelf life, service life, high transmit duty cycles, extreme temperatures and general use. NiMH Batteries are best suited to low transmit duty cycles. We recommend the use of a battery analyser to monitor the performance of batteries. Note that different analysers produce different results.

## Battery Safety

Do not install, remove or replace batteries in hazardous atmospheres as an explosion or fire could occur, even if the radio is qualified for use in such environments.

## Battery Shift Life

Battery shift life is affected by many factors. For example:

- ◆ Trunked radios will generally use more power than conventional radios.
- ◆ 1500mAh is the minimum recommended battery size for trunked radios.
- ◆ A radio on standby will use less power than a radio that is used regularly.

## Battery Service Life

- ◆ Battery service life is ultimately reduced by the number of charges and discharges, and the way it is treated.
- ◆ Batteries can typically have a longer service life if there is some residual charge remaining after every shift prior to recharging, and if the battery is short conditioned every week.
- ◆ Although important for battery maintenance, long conditioning and short conditioning affect the battery service life, and should therefore not be done more frequently than recommended.

## Battery Storage

- ◆ If storing the radio for long periods, remove the battery to ensure no power loss.
- ◆ For best results, discharge the battery until the 'low battery' warning is given.
- ◆ NiMH batteries can typically be useless after 2 years of storage at room temperature.
- ◆ Store batteries in a cool and dry location, away from direct sunlight.
- ◆ Long condition the battery after storage.

## Charging Batteries – Tait Orca 5000 – IMPORTANT

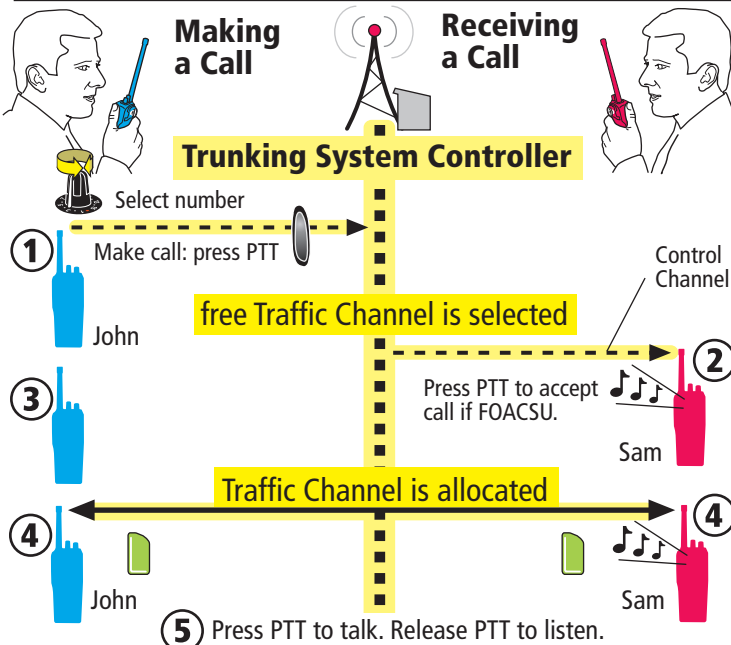
Do not put Tait Orca 5000 batteries into older battery chargers such as the 'green button' models. Tait Orca 5000 NiCd/NiMH batteries are ONLY for battery chargers with software version 2.07+.

## Charging Batteries – Tait Orca Elan, Excel and Eclipse

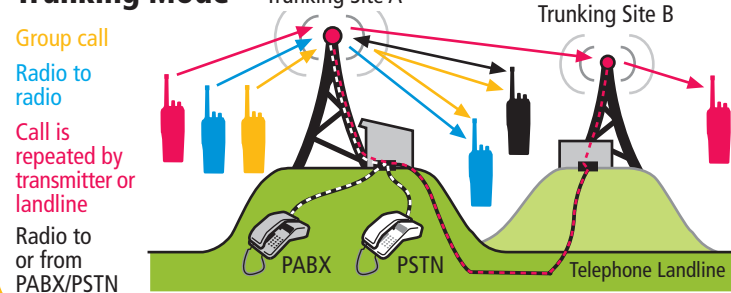
All Tait Orca batteries (TOPB100, TOPB200, TOPB400, TOPB500, TOPB600, TOPB700) are compatible with Tait Orca radios and chargers (software version 2.07+). However, care needs to be taken to ensure appropriate choice of belt clips and carry accessories.

# Trunking System

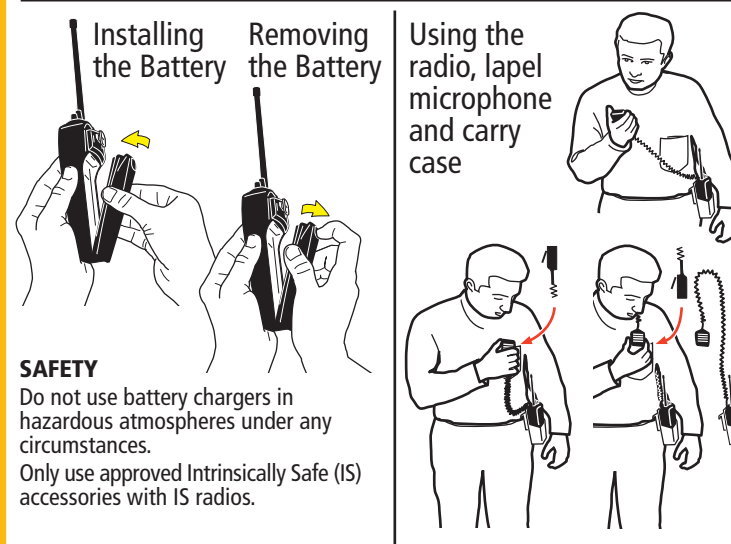
OACSU – on air-call setup  
FOACSU – full off air-call setup



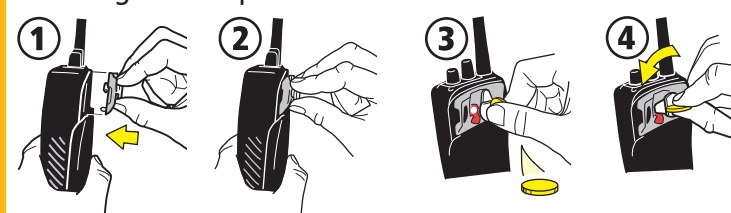
## Trunking Mode



# Accessory Use



## Installing the D-clip



## Removing the D-clip



# Accessories

Contact your authorised Tait Dealer



## Battery Performance

Note: Excessive short and long conditioning will reduce the life of the battery. Follow these recommendations to maintain the optimum performance of the battery:

- ◆ Charge the battery as soon as the radio gives the 'low battery' warning.
- ◆ Short condition the battery weekly.
- ◆ Long condition the battery only for the following reasons: on first use of new battery, if performance is poor, and after more than two weeks of storage.
- ◆ Do not charge a charged battery that has had little or no use.
- ◆ Do not leave charged batteries in the charger for more than a day.
- ◆ Turn the radio off when it is unattended for long periods.
- ◆ Clean electrical contacts of the battery and charger weekly using a fibre glass pencil, or the graphite tip of a type 4h (#4) or harder pencil.
- ◆ Use only batteries that are approved by Tait Electronics Ltd.

## Battery Temperature

- ◆ Temperatures below -20°C (-4°F) will permanently damage NiMH batteries.
- ◆ NiMH batteries are not recommended for temperatures below 0°C (32°F) or above 40°C (104°F).
- ◆ NiCd batteries are more resistant to very warm and cold environments compared with NiMH.

## Battery Recycle

Recycle batteries that are of no use. Contact your authorised Tait dealer for advice.



# Performance

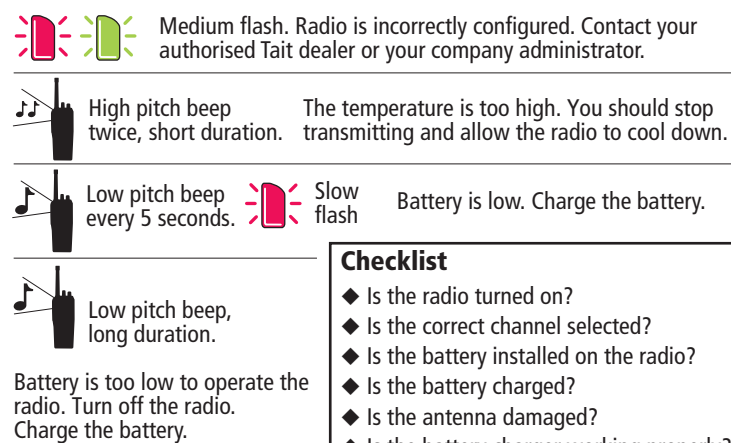
## To maintain the optimum performance of the radio:

- ◆ Use only the supplied antenna.
- ◆ Use only the radio and accessories for their design purpose.
- ◆ Use only accessories that are approved by Tait Electronics Ltd.
- ◆ Avoid high temperatures. If the temperature exceeds 80°C (176°F) the radio will make two short high-pitched beeps and will not work. Temperatures above 90°C (194°F) cause permanent damage to the radio.

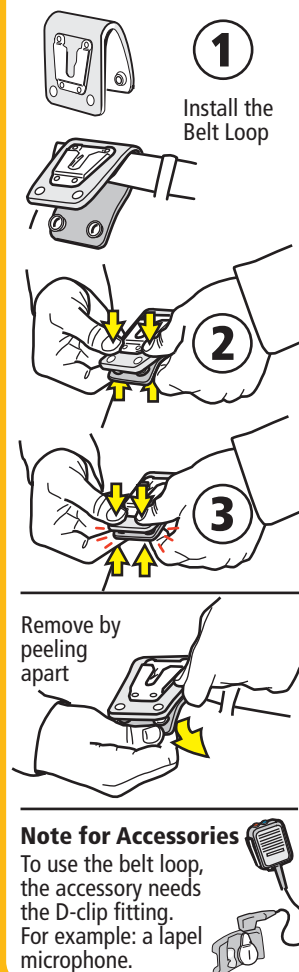
# Looking after your Radio

- ◆ Your radio does not require routine maintenance. However, it is a sophisticated electronic device and should be treated with care.
- ◆ Clean the radio, accessories and charger weekly using a clean dry lint-free cloth. When cleaning, do not use solvents, detergents, alcohol, aerosol sprays or petroleum-based products.
- ◆ Clean the electrical contacts on the battery and charger weekly using a fibre glass pencil, or the graphite tip of a type 4h (#4) or harder pencil.
- ◆ Do not put the radio and accessories in fluids.
- ◆ Do not drop the radio onto hard surfaces, place it down carefully.
- ◆ Do not use if the radio, antenna or accessories are damaged.
- ◆ Repairs and modifications must only be carried out by a Tait approved dealer.
- ◆ Always have the D-Clip or protective cover installed to protect the radio from dust ingress and electrostatic discharges.

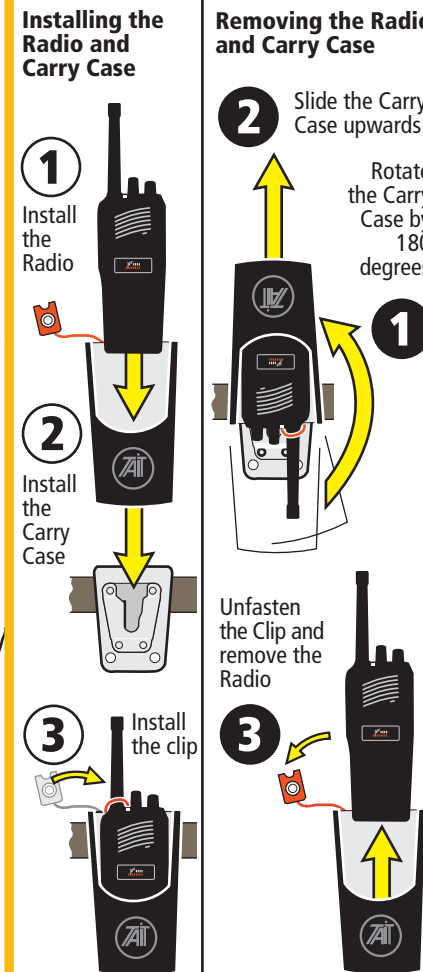
# Troubleshooting



# Belt Loop



# Carry Case



# Safety Precautions

- ◆ When transmitting, hold the radio microphone 25–50mm (1–2 inches) from your mouth.
- ◆ When transmitting, keep the antenna at least 25mm (1 inch) from any part of your body, especially your face and eyes.
- ◆ Turn off the radio where radio waves could interfere with electronic devices.
- ◆ Turn off the radio at fuel/gas stations.
- ◆ Turn off the radio in an area where detonators/explosives are being used.
- ◆ Turn off the radio before boarding/leaving an aircraft and whilst on board an aircraft.
- ◆ Do not use the radio whilst driving vehicles or operating machinery.
- ◆ Do not use earphones or headsets at high volume levels.
- ◆ Do not transmit in frequency bands used by distress beacons, such as 406–406.1 MHz.
- ◆ Do not put the radio, battery or accessories in liquids as they will be damaged.
- ◆ Do not allow children to play with the radio; it is not a toy.

## Hazardous Atmospheres

A hazardous atmosphere has the potential for fire or explosion from dusts, gases, liquids and solids. Make sure of the following in hazardous atmospheres:

- ◆ Only use approved Intrinsically Safe (IS) radios, batteries and other accessories. Refer to the service manual for a list of approved items.
- ◆ Do not use battery chargers in hazardous atmospheres.
- ◆ Turn off and do not use non-approved radios.
- ◆ Only use IS batteries with IS radios.
- ◆ Do not use damaged or cracked radios.
- ◆ Do not modify IS radios.

## Electromagnetic Interference

Turn off the radio where radio waves could interfere with electronic devices. Some facilities use equipment that is sensitive to Electromagnetic Interference such as: hospitals, medical centres, aircraft and some industrial facilities. Only use your radio in these situations if the radio is qualified for use in such areas.

**Note:** The warning below applies to FCC approved radios in 800 MHz and 900 MHz frequency bands:

## FCC RF Exposure Limits

This product generates radio frequency energy during transmissions. It is classified by the FCC as suitable for general population use in an uncontrolled exposure environment. The following conditions apply to the use of this radio:

- ◆ It must only be used with authorised accessories and antennas.
- ◆ Do not exceed a duty cycle ratio of 20% transmit mode to standby or receive modes. The radio is in transmit mode when the PTT key on the radio is pressed and the TX indicator LED is lit.

