Tait Orca 5010 Conventional Portable Radio User Guide

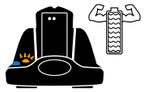
5010

TAIT orca™ 5000 SERIES

Getting Started

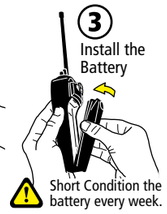
First Use of Radio

1. **IMPORTANT** Long condition the battery. Refer to the Battery Charger User Guide.



2. Install the Antenna

3. Install the Battery



Short Condition the battery every week.

4. Turn on radio, adjust speaker volume, select channel.

5. Press PTT to Talk. Release to Listen.

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.

Batteries

Use Tait Orca 5000 NiCd/NiMH batteries or Tait Orca Elan/Excel/Eclipse NiCd/NiMH batteries. For more information on batteries, refer to the Battery Care Guide.

IMPORTANT
Do not put Tait Orca 5000 batteries into older battery chargers. Tait Orca 5000 NiCd/NiMH batteries are ONLY for Tait Orca battery chargers with software version 2.07+.

Parts

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

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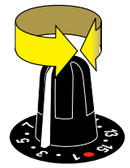
Printed in New Zealand M5010-200-00-051

Making Calls

16-way Selector

To make a call, turn to select to the desired Channel or Scan Group, then press PTT to talk, release PTT to listen.

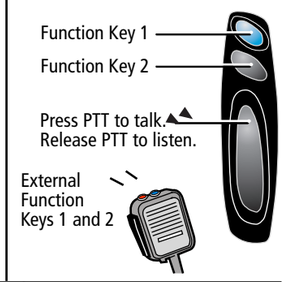


Press PTT to talk. Release PTT to listen.

When you select a Scan Group of Channels, scanning for activity will begin automatically.

Function Key

To make a call, use a short press or a long press to operate the function keys 1&2. Then press PTT to talk and release PTT to listen. See Radio Configuration for settings.



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

Flash slow

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

Using the PTT
Press PTT to talk to all persons on the same Channel. Release PTT to listen. You can only transmit or receive on one Channel at a time.

Selcall Calls

Preset/Fixed Selcall

Select a Selcall Channel.

Select the appropriate Function Key to make the call:

Short press or Long press

- Preset Call #1
- Preset Call #2
- Fixed Selcall Sequence

Press PTT to talk. Release PTT to listen.

Emergency Calls and One Touch Selcalls

You may need to Select a Selcall Channel.

Select the appropriate Function Key to make the call:

Short press or Long press

- Emergency Call
- One Touch Call

Press PTT to talk. Release PTT to listen.

Receive a Selcall Call

Flash fast

Press PTT to talk. There is usually no need to respond to a Group Selcall.

Deferred Callback for Selcall: If busy, the call will be sent when the Channel is free: up to 15 tries (if configured).

To cancel Selcall: Use the function key to turn the monitor off (auto-quiet timer), wait for the auto-quiet timer, or turn the radio off then on.

Radio Configuration

Write your settings

Short press is less than 1 second
Long press is more than 1 second
Note: Function keys use a toggle action e.g. on/off

	F1 Short Press	F1 Long Press	F2 Short Press	F2 Long Press	External 1	External 2
Disabled						
Tones: Beeps on / off						
Economy Mode Control on / off						
One Touch Call (Selcall)						
Channel's DTMF Preset						
Fixed Selcall Sequence						
Preset Call #1 (Selcall)						
Preset Call #2 (Selcall)						
Emergency (Selcall)						
Nuisance Delete						
Repeater Talk Around on / off						
Repeater Access Tone						
Handset Mode on / off						
Low Power on / off						
Toggle Monitor on / off						
Disable Monitor						
Squelch Override on / off						
Handset Mode / Volume + –					Inactivity seconds =	

16-way Selector

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

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.

Main Items

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

Group Information

Emergency Call Numbers

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

Fast flash

Radio is incorrectly configured. Contact your authorised Tait dealer or your company administrator.

High pitch beep twice, short duration.

The temperature is too high. You should stop transmitting and allow the radio to cool down.

Checklist

- Is radio turned on?
- Is correct channel selected?
- Is battery installed on radio?
- Is battery charged?
- Is antenna damaged?
- Is battery charger working?

Slow flash — Low pitch beep every 5 seconds.

Battery is low. Charge the battery.

Battery is too low to operate the radio. Turn off the radio.Charge the battery. — Low pitch beep, long duration.

Fast flash — High pitch beeps.

Radio is stunned. Contact the despatcher.

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.

Conventional Features

Squelch

Squelch allows reception of intellgible signals that are above the factory-set signal threshold, thus reducing noise. Set via the Menu to city or country.

Handset Mode

Flash slow

Speaker volume is reduced so that radio can be held near to the ear like a cellphone. Press PTT to talk, release PTT to listen.

Monitor Mode

Flash medium

Listen to all traffic and all groups on a channel. Monitor mode automatically turns off after a preset time.

It can be reset by the despatcher or when some types of calls are made.

It can be configured to override Selcall (Selcall mute) or both Selcall and CTCSS/DCS.

Squelch Override

This overrides the squelch feature so that all signals are made audible. This may improve the signal reception in marginal areas, but will likely increase noise. It cannot be activated when a scan group is selected. Set via a function key.

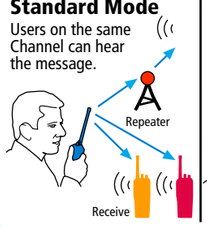
Nuisance Delete

If a Channel in a Scan group is busy for a long time and you do not want to listen to the conversation, you can temporarily remove it from the scanning regime using Nuisance Delete.

To apply Nuisance Delete to the currently selected Channel, press the function key (if configured). This will remove the currently selected Channel from the scanning regime. Select the Scan Group again to reset and remove Nuisance Delete.

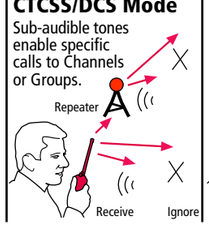
Standard Mode

Users on the same Channel can hear the message.



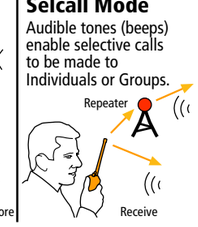
CTCSS/DCS Mode

Sub-audible tones enable specific calls to Channels or Groups.



Selcall Mode

Audible tones (beeps) enable selective calls to be made to Individuals or Groups.



Indicators

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

Flash fast — Medium pitch beep, short duration, twice.
Radio power-up sequence

Steady
Transmit at normal power

Flash medium
Transmit at low power

Flash slow
Handset mode

Medium pitch beep, short duration.
Function turned on

Low pitch beep, short duration.
Function turned off

Steady
Channel is busy

Flash medium
Monitor or Squelch Override

Flash slow
Economy mode

Flash fast — Medium pitch warble, long duration, repeating.
Call received but not answered
Flash fast continues until answered.

Flash slow
Repeater talk around (RTA)

Steady
Scan Group for activity or greatest signal strength

Flash medium
Activity detected on a Scan Group

Medium pitch beep, long duration, three times.
Call time is almost up, 10 seconds to go

Low pitch beep, for 1.5 seconds.
Transmit timer has expired

Low pitch beep, long duration.
No transmit
Channel is busy or transmit is inhibited by Selcall muting. Wait or use a free channel.

Medium pitch beep, short duration, two times.
Squelch Override

Batteries

Battery Types

There are two types of battery for your Tait Orca radio: Nickel Cadmium (NiCd) and Nickel Metal Hydride (NiMH). 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 where a long standby duration is required.

Battery Safety

Do not install or remove batteries in hazardous atmospheres as an explosion or fire could occur, even if the radio is qualified for use in such environments. A hazardous atmosphere has the potential for fire or explosion from dusts, gases, liquids and solids.

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+. The software version number is on the label underneath the battery charger.

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.

Battery Life

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 to transmit and receive regularly

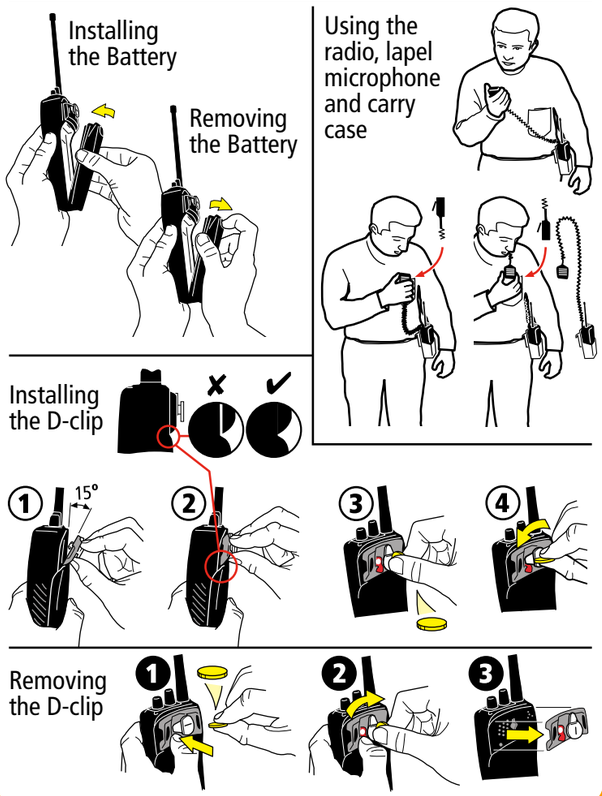
Battery Service Life

- 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 Temperature

- Temperatures below –20°C (–4°F) will permanently damage NiMH batteries.
- NiHM 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.

Accessory Use



Accessories

Contact your authorised Tait Dealer

Battery Performance

Battery Performance

We recommend the use of a battery analyser to monitor the performance of batteries. Note that different analysers produce different results.

To maintain the optimum performance of the battery:

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 Power Saving Features of a Typical Radio

Name	Description	Percent increase in shift life on 5-5-90% duty cycle*	Method
Economy mode	Low, medium and high economy modes.	Up to 15–25%	Function key or program the radio
Transmit in low power mode	Reduces transmission power from maximum to 1 Watt.	Up to 25%	Function key or program the radio

* A typical duty cycle is: 5% transmit, 5% receive, 90% standby. This is based on a typical 8 hour shift plus 1 hour break.

Battery Care

Looking after your Battery

- Do not put the battery in fluids.
- Do not drop the battery onto hard surfaces. Place it down carefully.
- Repairs and modifications must only be carried out by a Tait approved dealer.
- To maintain the optimum performance of the battery, refer to the section on **Battery Performance**.

Battery Problems

Crystalline growth and the formation of inter-metallic compounds are the main causes of poor battery performance.

Conditioning helps to break up crystalline formations that cause reduced surface area for charge and thus reduced capacity/shift life. Crystalline formations can cause self-discharge in extreme cases where the crystals grow through the separator.

Conditioning also helps to break up the inter-metallic compounds that can form and cause resistance and thus reduced capacity/shift life.

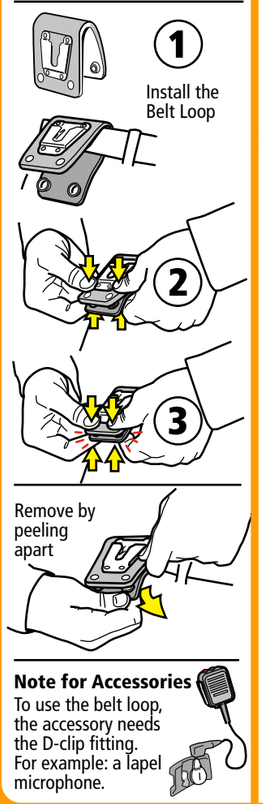
IMPORTANT: Excessive short and long conditioning will reduce the life of the battery. Follow these recommendations:

- 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.

Recycle

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

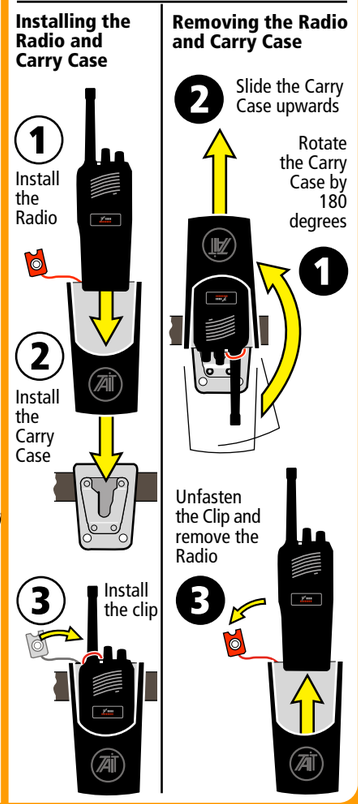
Belt Loop



Note for Accessories

To use the belt loop, the accessory needs the D-clip fitting. For example: a lapel microphone.

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 that are reserved for use by distress beacons, such as 406 to 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:

- Turn off the radio, unless the radio is qualified for use in hazardous atmospheres.
- Do not replace batteries, even if the radio is qualified for use in hazardous atmospheres.
- Do not use damaged radios. If the radio was originally qualified for use in such environments, the radio is not qualified if it has a cracked casing.
- Do not modify the configuration of a radio that is qualified as intrinsically safe for use in hazardous atmospheres. If you do, it will not be qualified.

Electromagnetic Interference

Turn off your 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 following warning applies to FCC approved radios in the 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 stand-by 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.