



16-way Selector
Preset strings for making calls, subscribing to groups, accessing conventional channels.

LED Indicator
See inside back cover, or pages 11 to 12.

On/off/volume Control
Rotate clockwise to turn on the radio and increase volume, counterclockwise to decrease volume and turn off the radio.

Function Keys
Preprogrammed functions. See page 13.

PTT Key
(Press-To-Talk)
Press to transmit, release to receive.

Speaker

Microphone

Tait Electronics Ltd Software Licence Agreement

By opening this product package and/or using the product, you agree to be bound by the terms of the Tait Electronics Ltd Software Licence Agreement. Please refer to the back of this manual for complete information on the Tait Electronics Ltd Software Licence Agreement.

Important Charging Information

Complete information on batteries and battery chargers is provided in “Charging and Caring for Batteries” on page 28.

New batteries must be fully charged and should also be put through a long conditioning cycle before they can be used. See “Charging the Battery Before First Use” on page 28 for more information.

After first charge, the only maintenance batteries require is regular charging and weekly short conditioning. For prolonged storage, remove the battery from the radio.

Charging Using the Fast Charger

NOTE: The button on the fast charger is the discharge button and is only used for short and long conditioning.

The battery can be charged separately or attached to the radio. If attached to the radio, the radio should be turned off while the battery is charging.

To charge the battery using the fast charger:

- Insert the battery/radio into the charger.
- The charger LED will glow amber for three seconds, then red.
- When the charger LED glows green, the battery is charged.

See “Fast Charge Times” on page 30 for charge times.

Charging Using the Trickle Charger

The trickle charger is only recommended for charging NiCd batteries. NiMH batteries should be charged using a fast charger.

The battery can be charged separately or attached to the radio. If attached to the radio, the radio should be turned off while the battery is charging.

To charge the battery using the trickle charger:

- Insert the battery/radio into the charger.
- Make sure the charger LED glows red. The LED will continue to glow red throughout charging.
- The battery will be fully charged in about 16 hours.

Short Conditioning Using the Fast Charger

For best battery performance, the battery should be put through a short conditioning cycle once a week. This will take about 4 to 8 hours, depending on how much use the battery has had.

NOTE: Do not use the short conditioning cycle on a new battery without first fully charging it.

To put the battery through a short conditioning cycle:

- Turn off the radio.
- Insert the battery/radio into the charger.
- When the charger LED glows red, press the discharge button until the indicator flashes green.
- Release the discharge button.

Once the battery has been discharged, it will charge normally. The battery is ready to be used again when the charger LED glows green.

Long Conditioning Using the Fast Charger

The battery should be put through a long conditioning cycle only:

- before first use (but only after a full charge);
- after prolonged storage; or
- if battery performance has deteriorated.







Long conditioning will take about 16 hours.

To put the battery through a long conditioning cycle:

- Turn off the radio.
- Press and hold the discharge button while inserting the battery/radio in the charger.
- Continue holding the discharge button until the charger LED flashes green.
- Release the discharge button.

The battery is ready to be used again when the indicator glows green.

Safety Warnings

- Do not hold the radio with its antenna close to or touching any part of your body, especially your face and eyes, when transmitting. 
- Switch the radio off at petrol filling stations. 
- Switch the radio off in the vicinity of explosive devices, such as at a quarry that uses blasting techniques. 
- Use of a handheld microphone or radio while driving is not permitted in some countries. Check the vehicle regulations in the area where you are driving. 
- Use only Tait Orca battery chargers to charge your radio battery. 
- If using the radio with an earphone or headset, avoid using unnecessarily high volume levels. 
- Frequency band 406 to 406.1 MHz is reserved for use by distress beacons. Transmissions should not be made within this frequency band.
- Do not immerse your Tait Orca radio in water.

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Getting Started

Your Tait Orca handportable radio is preprogrammed to suit your communication needs. If you are unsure which of the features described in this manual are available on your radio, consult your support technician or the person who programmed your radio.

The custom features programmed for your radio may be listed on the “Custom Settings” page on the inside back cover of this manual.

When you receive your Tait Orca handportable radio, make sure all items you ordered are included. Typically, you should receive the following:

- Tait Orca handportable radio unit
- Battery pack
- Antenna
- Belt clip
- Charger
- Plug pack
- *User’s Manual*

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

Installing the Antenna

Before using the radio, connect the antenna to the socket at the top of the radio.

Charging the Battery Before First Use

The battery pack must be fully charged before you first use the radio. It is highly recommended that the battery also be put through a long conditioning cycle after the initial charge and before use. Putting the battery through a long conditioning cycle will maximise the battery’s initial capacity.

If using the fast charger or multi-charger, the battery will fully charge within four hours. If using the trickle charger, the battery will fully charge within 16 hours. The trickle charger is not recommended for NiMH battery packs.

For more information on charging and conditioning the battery, see “Charging and Caring for Batteries” on page 28.

Installing and Removing the Battery Pack

To fit the battery pack to the radio, insert the bottom edge of the battery pack into the two slots at the back of the radio. Push the battery pack towards the radio. It should snap into place.

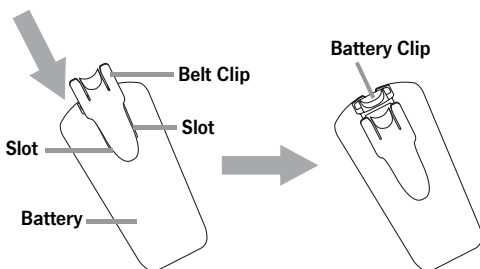
To remove the pack, push the battery catch down and from the sides pull the battery away from the radio.

Installing a Belt Clip

Two types of belt clip are available for Tait Orca radios:

- 38 mm belt clip; and
- 55 mm spring loaded belt clip.

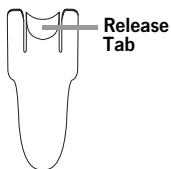
For both types of belt clip, slide the belt clip into the two slots on the top of the battery. Push down until the clip snaps into place.



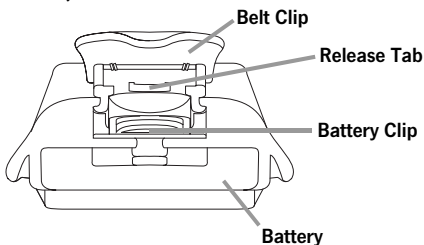
Removing a Belt Clip

Both belt clips have been designed to avoid accidental removal. However, they can be replaced if required.

To remove the 38 mm belt clip, insert the end of a flat-bladed screwdriver under the edge of the release tab (right) without forcing it. Gently lift the release tab up, then slide the belt clip away from the battery.



To remove the 55 mm belt clip, lie the battery on a flat surface. Insert the end of a flat-bladed screwdriver under the release tab (shown below) and lift. Slide the belt clip away from the battery.



Should the small battery clip come loose while removing either belt clip, it can easily be refitted by sliding it into the slot at the top of the battery until it snaps into place.

Radio Controls and Indicators

Your Tait Orca handportable controls and indicators include the on/off/volume control, the 16-way selector, side panel keys and various radio indicators.

Some keys can have functions assigned to both short and long presses. A short keypress is defined as less than one second. You may need to experiment to become familiar with the duration of short and long keypresses.

On/Off/Volume Control

Rotating the on/off/volume control clockwise turns on the radio and increases volume. Rotating the control counterclockwise decreases volume and turns off the radio. This also controls the volume level of indicators and confidence tones.

16-Way Selector

Each position on the 16-way selector can be preprogrammed for:

- Trunking mode preset calls: Change to the assigned position and press the PTT to initiate a trunked call. See page “Preset Calls” on page 19 for more information.
- Trunking mode groups: Change to the assigned position to subscribe to a group of radio users. See “Group Calls” on page 20 for more information.
- Conventional channels: Change to the assigned position to automatically switch the radio into conventional mode. See “Conventional Operation” on page 24 for more information.

What preset calls, groups and conventional channels are available for your radio may be listed on the “Custom Settings” page on the inside back cover of this manual.

Side Panel Keys

The side panel keys include:

- Function keys 1 and 2 for access to preprogrammed functions. See “Programmable Function Key Settings” on page 13 for more information on the options that can be preprogrammed for the function keys.
- PTT (press-to-talk) key for making the radio transmit each time you talk. The radio may be preprogrammed so that a brief press of the PTT will initiate calls in trunking mode.

Radio Indicators

Radio indicators are summarised on the “Radio Indicators” page on the inside back cover of this manual.

LED Indicators

The radio’s LED is the main indicator for displaying the state the radio is in. Other indicators provide additional information intended to supplement that provided by the LED.

“Slowly flashing” is one flash every 2 seconds, “Moderately flashing” is one flash every second, and “Rapidly flashing” is four flashes every second.

Colour	Rate	Meaning
Red	Steady	Transmitting.
Red	Slowly flashing	Battery low. Radio will also emit low-pitched beeps. Recharge or replace as soon as possible.
Red	Moderately flashing	Transmitting at low power.
Red	Rapidly flashing	Radio is stunned. Radio will also emit very high-pitched beeps. Contact your despatcher.
Red	Two rapid flashes	The power-up sequence is complete. Radio will also emit two medium-pitched beeps.

Colour	Rate	Meaning
Green	Steady	Trunking mode: A traffic channel has been allocated for a call. Proceed with the call. Conventional mode: Channel busy.
Green	Slowly flashing	Radio has access to a network and ready to make and accept calls.
Green	Moderately flashing	Conventional mode: Monitor or squelch override active.
Amber	Rapidly flashing	A call has been received.
Red/Green	Slowly flashing	Handset mode active.
Red/Green	Rapidly flashing	Radio programmed incorrectly or faulty. Contact your Tait dealer.

Audible Signals

Your radio may be preprogrammed so that whenever you press a key, the radio will beep to indicate whether or not the action you wish to carry out is permitted.

Two sets of audible signals are available on trunked radios: the MPT set and the Tait set. The audible signals described in this manual are the Tait set, which is the default.

A short, medium-pitched beep indicates that an action or selection is valid, whereas a long, low-pitched beep indicates that the action or selection is not valid.

Common audible signals are summarised on the “Radio Indicators” page on the inside back cover of this manual.

Audible signals may be disabled at radio programming time, and a function key may be programmed to turn audible signals on and off.

Programmable Function Key Settings

Unless otherwise stated, functions operate in both trunking and conventional modes.

Functions marked * are described more fully in “Other Features” on page 26. Some functions are not permitted in some countries.

Function	Description
Audible Indicators	Turns audible indicators on and off.
Clear*	Trunking mode only. Clears the last request to the trunking system.
Do Not Disturb*	Trunking mode only. Turns the do not disturb function on and off.
Dynamic Power Control*	Turns dynamic power control on and off.
Handset Mode*	Turns handset mode on and off.
Low Power Transmit*	Changes the transmit power from mid or high to low. Pressing the key again returns the transmit power to the preprogrammed level. Channels can also be preprogrammed for low power.
Preset Calls	Sends a preset call. See “Preset Calls” on page 19 for more information.
Volume Control	Controls volume in handset mode.

Basic Operation

This section describes the basic operation of your radio, including turning the radio on and off, adjusting volume, selecting channels, and transmitting and receiving.

Turning the Radio On and Off and Adjusting Volume

Rotating the on/off/volume control clockwise turns on the radio and increases volume. Rotating the control counter-clockwise decreases volume and turns off the radio.

To preserve battery life, it is recommended that you turn off the radio when it is not in use.

Once the power-up sequence is complete, the LED will flash red twice and the radio will give two short, medium-pitched beeps. How you now use the radio depends on what operating mode it is in. See “Operating Modes” below.

Operating Modes

Trunking mode is the main mode of operation available on your radio. The radio may also be preprogrammed to operate as a conventional radio.

- In trunking mode, you make calls through the trunking network. You can call other radios in your fleet and, depending on how your network is configured, private automatic branch exchange (PABX) extensions and public switched telephone network (PSTN) numbers. See “Trunking Operation” on page 16 for more information on operating in trunking mode.
- In conventional mode, your radio communicates directly with other radios over standard channels or via a repeater. See “Conventional Operation” on page 24 for more information on operating in conventional mode.

Transmitting and Receiving

Receiving and making calls in trunking mode is described in “Receiving Calls” on page 17 and “Making Calls” on page 18. Making and receiving calls in conventional mode is described in “Conventional Operation” on page 24.

Once a call is established, proceed with the conversation by pressing the PTT (press-to-talk) key and speaking clearly into the radio. While the radio is transmitting the LED will glow red.

Release the PTT key to hear the other party.

Transmit Timer

Your radio is programmed with a transmit timer that limits the amount of time you can transmit continuously. If the radio gives three medium-pitched beeps, the transmit timer is about to expire. Ten seconds later, the radio will automatically stop transmitting. You will have to release the PTT before you can transmit again.

While operating in trunking mode, call time is limited. See “Call Time Limit” on page 16 for more information.

Trunking Operation

When your radio is operating in trunking mode, all calls are made to a trunking system via a control channel. The trunking system manages a pool of traffic channels. Calls can be made from one radio to another, from a radio to a PABX or PSTN number, or from a PABX or PSTN number to a radio. The setup of a radio-to-radio call is described below.

The features and calls available on your radio in trunking mode depend on how the network is configured. If your radio does not operate as described in this manual, consult your network operator.

Trunking Call Setup

For a trunking call between two radios, the calling radio sends a message to the control channel giving the identity of the called radio and the type of call.

The control channel then sets up the call by:

- contacting the other radio; and
- directing both radios to switch to a traffic channel.

The conversation is carried out on the traffic channel.

When the conversation is finished or when the time permitted for the call is up (see “Call Time Limit” below), the traffic channel will clear down the call and will be available for other calls. The network (or your radio) may also clear down the call if neither caller transmits for some time or moves out of range.

Call Time Limit

The length of your call may be limited by the network or by your radio. When the radio gives a series of short medium-pitched beeps, your call time is almost up. Ten seconds later, you will be disconnected and the network will clear down the call. You will hear short, low-pitched beeps.

The network will also clear down the call if there is no activity on the traffic channel for a network-specific period of time or if one of the callers move out of range.

Receiving Calls

See “Types of Calls” on page 19 for descriptions of different types of calls.

When you receive a call, the radio will respond in one of two ways, depending upon the system configuration and how the radio was programmed.

- The radio will give a medium-pitched warble and automatically accept the call. The LED will glow green to indicate that the radio has switched to a traffic channel. Press the PTT to proceed with the call. This is known as on-air call setup.
- The radio will give a long, high-pitched tone every 1.5 seconds. Accept the call by giving a brief press of the PTT. Once a traffic channel has been allocated, the radio will give two short medium-pitched beeps and the LED will glow green. Proceed with the call. This is known as full off-air call setup, or FOACSU.

When you are finished with your conversation or if you do not wish to accept the call:

- press the clear key (one of the programmable function key settings); or
- change to another position on the 16-way selector.

This will indicate to the network that you have finished the call, and it can then clear down the traffic channel for other calls. The radio will give five short, low-pitched beeps and the radio will return to the idle state.

Making Calls

See “Types of Calls” on page 19 for descriptions of different types of calls.

There are two ways to establish a call.

- Each position on the 16-way selector can have a preset call assigned to it. Change to the position the call you wish to make is assigned to and briefly press the PTT.
- The radio can also have two function key preset calls, which are assigned to one of the function key positions. Press the assigned function key to send the call.

The control channel will then set up the call.

The 16-way selector calls and function key preset calls can be any of the call types described in “Types of Calls” on page 19.

Once the called party has answered, you will hear either:

- a medium-pitched warble; or
- two short medium-pitched beeps.

Depending upon how the trunking system and radio are configured, you may also hear a telephone-like ringing tone.

The LED will glow green to indicate that the radio has switched to a traffic channel. You can proceed with the call.

Ending the Call

When you have finished your conversation, either:

- press the clear key (one of the programmable function key settings); or
- change to another position on the 16-way selector.

This will indicate to the network that you have finished the call, and it can then clear down the traffic channel for other calls. The radio will give five short, low-pitched beeps and will revert to the idle state.

Calls Not Connected

There are several reasons why a call may fail.

- If the radio gives a series of long, low-pitched beeps, the party you are calling is already busy. Try your call again later.
- If the radio gives a long, low-pitched beep, the system may be too busy to handle your call, the party you are calling has their radio switched off or in do not disturb mode, or the party you are calling is out of range. Try your call again later.
- If the radio gives a series of long, medium-pitched beeps, the system is not able to connect your call straight away but will queue it and connect it as soon as possible.
- If the radio gives a single long, low-pitched beep, your radio is not permitted to make the type of call you requested or the number you called is not supported.

Types of Calls

The types of calls available for your radio depends on how your radio was programmed. Your network operator can tell you what calls are available for your radio, or they may be listed on the “Custom Settings” page on the inside back cover of this manual. The most common types of calls are described below.

Preset Calls

The radio can be preprogrammed with up to 16 preset calls, which are assigned to positions on the 16-way selector. These calls can be made by switching to the designated position on the 16-way selector and giving a brief press of the PTT. The radio may also be preprogrammed with up to two function key preset calls, which are made by pressing the designated function key.

Preset calls, including the function key preset calls, can be any of the call types described below, and can also:

- temporarily subscribe your radio to groups; and

- change to conventional channels.

A preset call can also be a function activation or deactivation. For example, the do not disturb function can be activated by the string *49# and deactivated by the string #49#. Preset calls can be programmed with these strings.

Preset calls are the only calls available on your radio. The preset calls preprogrammed for your radio may be listed on the “Custom Settings” page on the inside back cover of this manual.

Radio-to-Radio Calls

Radio-to-radio calls are the most common type of call on a trunking system. Depending on how your radio was preprogrammed, calls can be made to radios in the same fleet, to radios in other fleets with the same prefix as your fleet, or to radios in fleets that have a different prefix.

Group Calls

Your fleet may be set up with users allocated to several groups. Your radio can subscribe to up to 32 groups.

When your radio belongs to a group, it is “subscribed” and so you receive all calls directed to that group of users. Group calls can be either:

- conference calls, in which all members of the group can participate; or
- broadcast calls, in which only the sender can speak.

What groups your radio belongs to depends on how your radio was preprogrammed. Your radio may be permanently subscribed to one or more groups. You will always be a member of those groups and receive calls from them.

You can also temporarily subscribe to a group or set of groups. To select a group or set of groups, switch to the assigned position on the 16-way selector. The radio will give a short, medium-pitched beep to indicate that you are now subscribed to the selected group or set of groups. You will receive calls from that group or set of groups as long as the 16-

way selector is on that position. The only other groups you will receive calls from for this time are those to which you are permanently subscribed.

To make a group call, switch to the position on the 16-way selector designated for the group you wish to call and briefly press the PTT.

A conference call will automatically be cleared down when all parties have left the call, and a broadcast call will automatically be cleared down when the caller is finished. However, you can leave the call at any time by:

- pressing the clear key (one of the programmable function key settings); or
- changing to another position on the 16-way selector.

Despatcher Calls

Your radio may be preprogrammed so that you can send a message to the despatcher requesting they call you back.

A despatcher call may be preprogrammed for one of the positions on the 16-way selector. To make the call, change to the designated position and give a brief press of the PTT.

Once you have made a despatcher call, the network will return a message confirming that your call has been received. The radio will give a two-second-long high-pitched beep.

Priority Calls

Priority calls take precedence over other calls being made on the network, except emergency calls.

Emergency Calls

An emergency call alerts the receiver that the caller is in distress.

When you send an emergency call, the radio sends a message to alert the party you are calling, usually a despatcher, that you are in distress. You may still need to inform them of your location and any other relevant information.

On most networks, emergency calls take precedence over other call types, including priority calls, and so if all traffic channels are busy, an existing call will be cleared down so the emergency call can proceed.

PABX and PSTN Calls

Calls can be made between the trunking network and a private automatic branch exchange (PABX) extension or a public switched telephone network (PSTN) number. Your radio may be preprogrammed so it cannot make PABX or PSTN calls.

Be sure to press the PTT key when you are speaking.

Status Calls

A status call is a message from one caller to another telling the receiver the caller's current activity. Status calls can only be made to other radios, and group status calls are not permitted.

One of the preset calls available on your radio may be a status call. Send the call as you would other types of calls. When the message is received, your radio will give a two-second-long high-pitched beep.

Re-establishing a Call

The unanswered call and callback features allow you to re-establish calls.

Unanswered Call

When an incoming call is missed, the LED will rapidly flash amber and the radio will periodically give a medium-pitched warble. You can return the call by giving a brief press of the PTT. Call setup will proceed as usual. If you do not wish to return the call, switch to another position on the 16-way selector.

Callback

When an incoming call is terminated, your radio may be preprogrammed so that you can call back the caller by giving a brief press of the PTT. Call setup will proceed as usual.

Callback does not operate for PABX and PSTN calls.

Conventional Operation

Your radio may be preprogrammed with up to 10 conventional channels.

If conventional channels are programmed, they will be assigned to positions on the 16-way selector. The radio will automatically leave trunking mode when you switch to a position that has a conventional channel assigned to it.

If the do not disturb feature is active when the radio enters conventional mode, it will automatically be deactivated.

In conventional mode, you communicate directly with other radios or via a repeater rather than through the trunking system.

Subaudible Signalling

Your radio may also be programmed with subaudible signalling that segregates your group from others using the same channels. If so, you will only hear traffic from radios within your own group.

Monitor

The monitor facility allows you to override subaudible signalling so you hear all conversations on a channel, including those outside your group.

One of the function keys may be programmed with monitor. Pressing the function key toggles monitor on and off.

Receiving Calls

Your radio will remain quiet until there is activity on the currently selected channel. When you hear your own call sign, respond promptly by pressing the PTT key and replying. You can then proceed with your call (see “Transmitting and Receiving” on page 15).

Making Calls

To make a call, make sure the channel is free. If the channel is busy, you will not normally be able to transmit; if so, the radio will sound a low-pitched warning beep if you try to transmit. You may not be able to hear the activity, but the LED will glow green.

When the channel is free, press the PTT and speak clearly into the radio. Identify yourself and the party you are calling using the call signs you have been assigned. Release the PTT key when you have finished talking.

Exiting Conventional Mode

To exit conventional mode and return to trunking operation, select a position on the 16-way selector that does not denote a conventional channel.

The radio will then return to operating on the trunking network it was operating on before entry into conventional mode.

Other Features

Note that some features are not permitted in some countries.

Clear

One of the function key settings can be programmed to clear the last request to the trunking system. For example, if you have just pressed the PTT to set up a preset call, pressing the assigned function key will cancel the call.

Changing to another position on the 16-way selector will also clear the last request.

The function key will only act as a clear key in trunking mode.

Do Not Disturb

Do not disturb only functions in trunking mode.

Do not disturb allows you to ignore incoming calls while still making outgoing calls as usual.

Do not disturb can also be assigned to a function key. If so, pressing the key toggles do not disturb on and off. The radio will give a short medium-pitched beep when do not disturb is turned on, and a short low-pitched beep when do not disturb is turned off.

Dynamic Power Control

Dynamic power control optimises the radio's power use by reducing transmit power in high signal strength areas.

If assigned to a function key, pressing the key toggles dynamic power control on and off.

Handset Operation

The radio can be operated as a normal radio where you hold the radio with the microphone about 15 cm away from your mouth. It can also be operated like a telephone handset in noisy environments or when privacy is required. However, ensure that while using the radio in handset mode, you do

not hold the speaker pressed against your ear and the antenna does not touch your body.

Handset mode can be toggled on and off by the press of an assigned function key. Your radio may be preprogrammed so that handset mode will automatically turn off after a period of inactivity.

While handset mode is active, the LED will slowly flash red and green.

Volume Override

Your radio may be preprogrammed so that the function keys are used as volume up and down keys while in handset mode. What keys act as volume control keys may be listed on the “Custom Settings” page on the inside back cover of this manual.

Low Power Transmit

If you are using your radio in conditions where signal strength is high, you can extend battery life by transmitting at low power.

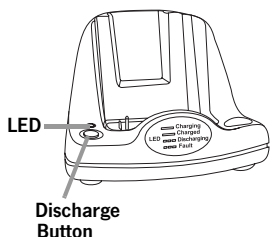
While low power transmit is activated, transmissions will be made at low power rather than at the preprogrammed power level. Note that some channels may be preprogrammed to always transmit at low power.

Low power transmit can be toggled on and off by the press of an assigned function key.

When you transmit at low power, the LED will moderately flash red.

Charging and Caring for Batteries

When the battery is low, the radio will give a low-pitched beep every five seconds and the LED will slowly flash red. Recharge or replace the battery as soon as possible. When the battery gets too low, the radio will emit a long, low-pitched beep and will then stop operating. Turn off the radio immediately.



There are three types of chargers available for Tait Orca radios: a desktop fast charger (left), a desktop trickle charger and a multi-charger. The trickle charger does not have a discharge button, but is otherwise identical in appearance to

the fast charger. The multi-charger is made up of six fast chargers and can be used on a desktop or mounted on a wall. Instructions for using the fast charger also apply to the multi-charger.

A vehicle kit is also available for charging the radio from a vehicle's power supply. Instructions for charging the battery using the vehicle kit are supplied with the vehicle kit.

Batteries can be recharged attached to the radio or as a separate unit. Your radio must be turned off to ensure a full charge.

Note that while the battery is charging and for up to half an hour after removing the battery from the charger, the radio's battery indicator will not accurately reflect how charged the battery is.

Charging the Battery Before First Use

The battery pack must be fully charged before you first use the radio. It is highly recommended that the battery also be put through a long conditioning cycle after the initial charge

and before use. Putting the battery through a long conditioning cycle will maximise the battery's initial capacity.

Using the Fast Charger

The fast charger can be used to:

- charge batteries; or
- condition batteries.

Fast Charger LED States

LED	Meaning
Steady Red	Battery charging.
Flashing Red	Battery not seated properly in charger, battery or charger contacts dirty, or battery faulty.
Steady Green	Fast charge stage is complete. Battery should be left in charger for an additional 2 hours.
Flashing Green	Battery is being discharged as part of a short or long conditioning cycle.
Steady Amber	Charge suspended until battery temperature is within correct range.
Flashing Amber	Battery is below optimum capacity and should be replaced.

Charging Using the Fast Charger

Charging using the fast charger involves three stages.

- The fast charge stage quickly brings the battery up to near its full capacity. The charger LED will glow red.
- The trickle charge stage slowly tops up the battery until it is at its fully capacity, which is typically 2 hours. The charger LED will glow green.
- The standby charge stage keeps the battery at its full capacity, as long as the radio is turned off. The charger LED will glow green.

Once the charger LED glows green, leaving the battery in the charger for 2 hours will ensure the battery is fully charged.

The battery can be charged separately or attached to the radio. If attached to the radio, the radio should be turned off.

To Charge the Battery Using the Fast Charger:

- Insert the battery/radio into the charger.
- The charger LED will glow amber for three seconds, then red.
- When the charger LED glows green, the battery is being trickle charged. Leave the battery in the charger for 2 hours to ensure it is fully charged.

Fast Charge Times

Battery Type	Fast Charge Time
1100 mAh NiCd	up to 1 1/2 hours
1500 mAh NiCd	up to 2 hours
1850 mAh NiCd	up to 2 1/2 hours

A further 2 hours is required to ensure maximum capacity.

Conditioning Using the Fast Charger

Two conditioning functions are available on the fast charger, a short conditioning cycle and a long conditioning cycle.

The short conditioning cycle discharges the battery, then charges it. Regularly recharging a battery that has not been completely discharged will eventually affect its ability to hold a full charge. For best battery performance, short conditioning should be carried out once a week. This will take about 4 to 8 hours, depending on how much use the battery has had.

NOTE: Do not use the short conditioning cycle on a new battery without first fully charging it.

The long conditioning cycle discharges and charges the battery a number of times. On the last cycle, the battery's capacity is checked and the LED will glow green if it is in

serviceable condition. Long conditioning will take about 16 hours.

NOTE: The battery should be fully charged before it is put through a long conditioning cycle.

A long conditioning cycle may be necessary when:

- the battery performance has deteriorated;
- if a battery has been stored for a long time; or
- if a new battery is not performing as well as expected.

To Short Condition the Battery:

- Turn off the radio.
- Insert the battery/radio into the charger.
- When the charger LED glows red, press the discharge button until the indicator flashes green.
- Release the discharge button.

Once the battery has been discharged, it will charge normally. The battery is ready to be used again when the charger LED glows green.

To Long Condition the Battery:

- Turn off the radio.
- Press and hold the discharge button while inserting the battery/radio in the charger.
- Continue holding the discharge button until the charger LED flashes green.
- Release the discharge button.

The battery is ready to be used again when the indicator glows green.

Using the Trickle Charger

The trickle charger is only recommended for charging NiCd batteries. NiMH batteries should be charged using a fast charger.

The battery can be charged separately or attached to the radio. If attached to the radio, the radio should be turned off while the battery is charging. If the radio remains on, the trickle charger will merely maintain the battery's charge, keeping it at near the same level as before charging.

To Charge the Battery Using the Trickle Charger

- Insert the battery/radio into the charger.
- Make sure the charger LED glows red. The LED will continue to glow red throughout charging.
- The battery will be fully charged in about 16 hours.

You can leave the battery in the charger until you next need to use the radio. However, leaving the battery in the charger for longer than 24 hours is not recommended.

Preserving Battery Life

- Put the battery through a short conditioning cycle weekly using the Tait Orca fast charger.
- If the battery is not performing as expected, put it through a long conditioning cycle.
- Do not recharge a battery that has had only a small amount of use. Overcharging the battery will reduce the life of the battery.
- Turn the radio off when it is unattended for long periods.
- Use only a Tait-recommended charger.
- Maintain an ambient temperature of between 5°C and 40°C during recharging. Optimum battery performance will be obtained between 15°C and 25°C.
- Do not allow the battery contacts to become short-circuited. This may happen if a metallic object such as a coin or paper clip comes into contact with both battery contacts.
- The battery pack is a sealed unit and is not serviceable. Do not attempt to open it.

Disposing of Used NiCd Batteries

NiCd batteries contain a small amount of the metal cadmium, a potentially toxic substance that must be disposed of properly. When no longer in use, contact your Tait dealer for recycling details.

Troubleshooting

When inserting the battery/radio in the charger, the charger LED is not as expected.

- Make sure the battery/radio is seated properly in the charger.
- Check that the charger is properly plugged in.
- Check that the battery and charger contacts are clean.

The charger LED glows amber.

The radio is too hot or too cold for charging.

- Remove the radio from the charger and allow it to reach room temperature before attempting charging again. Safe range for charging is 5°C to 40°C, and optimum battery performance will be obtained between 15°C and 25°C.

Basic Maintenance

Your Tait Orca handportable requires no regular maintenance other than ensuring that the battery has sufficient charge and that no damage has occurred to the antenna or the battery pack.

General Care

- Wipe the battery contacts and accessory connector contacts with a dry lint-free cloth to remove any dirt, oil or grease.
- Use a cloth dampened with clean water to clean the radio's case, but do not immerse the radio in fluids.
- Do not allow the radio to come into contact with detergents, alcohol, aerosol sprays or petroleum-based products as they may permanently damage the case.
- Avoid high temperatures. If the radio overheats, it will cease to function. You will hear two short high-pitched beeps.

Troubleshooting

If you are experiencing difficulty operating your Tait Orca handportable, review "Basic Operation" on page 14 and check the following items:

- Is the battery firmly attached to the radio?
- Is the battery sufficiently charged?
- Is the battery charger working properly?
- Is the antenna damaged?

If all appears to be in order but your radio still fails to operate properly, consult your local Tait dealer for assistance.

Accessories

Tait offers a large range of accessories to increase communication efficiency with your Tait Orca handportable.

- Antennas
- Audio accessories
 - Lapel speaker microphones
 - Headsets
- Carrying accessories
 - 38mm belt clip
 - 55mm spring loaded belt clip
 - Heavy duty carry case
 - Heavy duty holster
- Batteries
 - 1100 mAh NiCd battery pack
 - 1500 mAh NiCd battery pack
 - 1850 mAh NiMH battery pack
- Battery chargers
 - Desktop fast charger
 - Desktop trickle charger
 - Multi-charger
 - Vehicle kit

Contact your local Tait dealer for more information.

To fit some accessories to the radio, you will need to remove the rear accessory cover. Remove the battery, then insert the end of a key underneath the bottom edge of the accessory cover. Lift to remove the cover.

When attaching or removing an accessory, ensure that the lever is in the upright position. Once the accessory is in position, rotate the lever 90 degrees counterclockwise to lock it in place.

Specifications

Size L x W x H
(including 1100 mAh
NiCd battery) 44 mm x 62 mm x 153 mm

Typical weight
(including 1100 mAh
NiCd battery) 520 g

Battery voltage 7.5 V nominal

Transmitter power 136-174 MHz: 5 W
174-530 MHz: 4 W

Receive sensitivity better than -117 dBm

Audio power >0.5 W into 16 ohms

Antenna connector SMA

For full details of the technical specifications of the radio,
refer to the *Service Manual* or to your nearest Tait dealer.

Tait Electronics Ltd

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2. If a diskette is supplied and if Tait is unable to deliver a replacement diskette that is free from defects in material or workmanship, the Licencee may terminate this Agreement by returning the Software to Tait.

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The Licencee may not sublicense, assign or transfer the licence or the program except as expressly provided in this Agreement. Any attempt otherwise to sublicense, assign or transfer any of the rights, duties or obligations hereunder is void.

No Other Terms

The Licencee acknowledges that it has read this agreement, understand it and agree to be bound by its terms and conditions. The Licencee further agrees that this is the complete and exclusive statement of the agreement between it and Tait in relation to the Software which supersedes any proposal or prior agreement, oral or written and any other communications between the Licencee and Tait relating to the Software (LS-589).

My Custom Settings

Function Key Settings

Short Press

Long Press

F1: _____

F2: _____

Handset Mode Volume Keys

Volume Up: _____ Volume Down: _____

Access Numbers (this radio)

Prefix: _____ Fleet: _____ Identity: _____

Via PABX: _____ : _____

Via PSTN: _____ : _____

Commonly Called Numbers

Position

Settings










































Radio Indicators

LED:

-  steady
-  flashing

Sound:

- pitch:  high  medium  low
- duration:  short  long ... repeating

	LED + Sound	Meaning
Basic Operation	 +  	You have just turned on the radio. The power-up sequence is complete.
		The radio is transmitting.
	 medium	The radio is transmitting at low power.
	  slow	Handset mode is active.
		A function has been turned on.
		A function has been turned off.
Trunking Mode	 slow	The radio has access to a network and is ready to make or accept calls.
	 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.
	 x 5	The current operation has been cancelled at your request.
	 every 1.5 sec	The system is setting up an incoming call. Give a brief press of the PTT to accept the call.
	 warble +  or   + 	A traffic channel has been allocated for a call you have made or received. You can proceed with the conversation.
		The radio is operating on a traffic channel.
	 fast +  warble ...	A call has been received but not answered. You can return the call by giving a brief press of the PTT.
	 ...	Your call time is almost up. In 10 seconds, you will be disconnected and the network will clear down the call.
	 ...	The network has queued the call you are attempting to make and your call will be connected as soon as possible.
	 2 sec	The network is busy and is unable to handle your call request. Try again later.
	 ...	The system cannot contact the party you are attempting to call because they are busy. Try again later.
	 2 sec	Your status call or network service request has been accepted.
	 +  	You have just selected a preset call in order to change networks. Your radio is now operating on another trunking network.
	 x 4	The call you are attempting to make is not valid for your radio. Consult your fleet manager.
Conventional Mode		The channel is busy.
	 x 3	The transmit timer is about to expire. In 10 seconds, the radio will stop transmitting. Release the PTT key before transmitting again.
	 1.5 sec	The transmit timer has expired. Release the PTT key before transmitting again.
	 + 	You cannot transmit because the channel is busy. Wait until it is free to transmit or use a channel that is clear.
Warnings	 medium	Monitor is active.
	 slow +  every 5 sec	The battery is low. Recharge or replace the battery as soon as possible.
		The battery is too low to operate the radio. Turn off the radio and recharge or replace the battery.
	 	The temperature is too high. You should stop transmitting and allow the radio to cool down.