Tait Orca 5035/5040
Trunked Portable Radio
User Guide

5035 5040

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, make a call.

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. For more information on trunking call functions, contact your Network Operator.

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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Making Calls

PTT
Press PTT to talk. Release PTT to listen.

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

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

Keypad
Dial the number. (5040 radios only)
Example: 159 307823

To make the call, short press: Optional

Short press   Long press

Cancel =   Short press or

30782X   3D762X
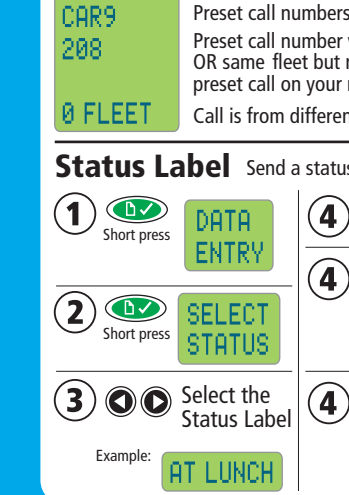
16-way Selector
The selector uses the presets numbered 1 to 16
Long press SELECT PRESET
Short press
Select the Destination
Example: 159 PETER

To make the call, short press: Optional

Menu
Use the Menu to make a call.
Long press
Short press
Select the Destination
Example: MENU PETER

To make the call, short press:

Cancel =   Short press or

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.

Function Key 3 or Action List **F**

External Function Keys 1 and 2
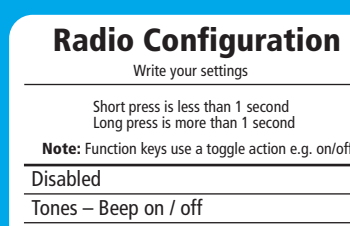
Call Information

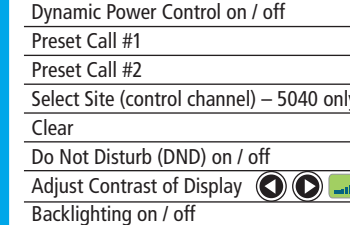|	
GO	Go. Call accepted. Press PTT to Talk. Release PTT to listen.
QUEUED	Queued. Recipient has queued your call.
MISSED CALLS	Missed Calls. Call is Queued.
SYS BUSY	System is busy.
ENGAGED	Engaged. Recipient is busy.
NOT HOME	Recipient has turned radio off. Recipient is in Quiet mode (do not disturb) Recipient is out of range.
WAIT	Wait. System is busy but will connect you as soon as possible.
UNAVAIL	Unavailable. Call is not permitted.
UNOBTAIN	Unobtainable. Number is not supported.
ACCEPTED	Accepted. Call has been accepted.
QUIET	Quiet. Do not disturb.
CALLBACK	Callback. Return call by pressing PTT or Menu.
CAR9 208	Preset call numbers with label. Preset call number without label OR same fleet but not set as a preset call on your radio.
0 FLEET	Call is from different fleet.

CL1/3
CL = Call
SCL = Status
MCL = Message

LOCKON
Lockon. Keylock is on.
 Long press to unlock

ENTER CODE
Enter Security PIN using keypad (personal identification number).

PHONE Call from PSTN
PABX Call from PABX

Status Label Send a status label to a user or the despatcher (not a group)

1 Short press **DATA ENTRY**
2 Short press **SELECT STATUS**
3 Select the Status Label
Example: **AT LUNCH**

4 Short press # to immediately send to despatcher
4 Short press Enter radio number e.g. 211 To make the call, short press: Optional
4 Short press Select the Destination To make the call, short press:
Example: **JOHN**

Phonetic Alphabet

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

Radio Configuration
Write your settings

Presets

0	50		
1	51		
2	52		
3	53		
4	54		
5	55		
6	56		
7	57		
8	58		
9	59		
10	60		
11	61		
12	62		
13	63		
14	64		
15	65		
16	66		
17	67		
18	68		
19	69		
20	70		
21	71		
22	72		
23	73		
24	74		
25	75		
26	76		
27	77		
28	78		
29	79		
30	80		
31	81		
32	82		
33	83		
34	84		
35	85		
36	86		
37	87		
38	88		
39	89		
40	90		
41	91		
42	92		
43	93		
44	94		
45	95		
46	96		
47	97		
48	98		
49	99		

Action List **F**

1
2
3

Status Labels

1		16	
2		17	
3		18	
4		19	
5		20	
6		21	
7		22	
8		23	
9		24	
10		25	
11		26	
12		27	
13		28	
14		29	
15		30	

Radio Identification

Prefix #   Fleet #   Radio ID #

Group Information

Emergency Call Numbers

(Phone feature icons)

	Battery 100% charged
	Battery 60% charged
	Battery Low
	DTMF Mode on
	Monitor Mode on
	Scroll
	Handset Mode on
02:40	Call Timer

	A call is in the Queue
	Transmit at normal power
	Transmit at low power Max.1W
	Access to trunking network
	No access to trunking network, or unauthorised site, or out of signal range.
	Signal strength indicator. Also for contrast indication.

- Antenna
- Function Key 1
- Function Key 2
- Press to Talk (PTT), Toggle (on/off) or Send (make call)
- Function Key 3 or Action List
- Control or Traffic Channel **159**
- Conventional Mode **CHAN**
- Queue: Call # of # (20 maximum) **CL1/3**
- Caller ID **75 JIM**

- 16-way Selector
- On/Off and Volume
- LED
- Speaker
- Standard Microphone
- Scroll in ▶ Forwards Menu: ◀ Backwards
- Jump to ▶ Top Menu: ◀ Bottom
- Display
- Clear, Cancel or Back in Menu
- Menu, Select, Toggle (on/off) or Send (make call)
- Alphanumeric Keypad (e.g. for Alpha-Search)
- Send (make call)
- Manual Dialling
- Handset Microphone

Menu

Long press to Select Menu or Exit Menu. When in Menu, short press to Select or to Toggle a function e.g. on/off
Scroll: Forwards / Backwards.   Jump: Top / Bottom.

MENU Short press Clear, Cancel or Back in Menu.   Long press Delete queued calls.

QUEUED CALLS Select call CL1/07 Return call (and delete from Queue) Read status or message Short press Delete call Long press

SELECT PRESET Select from list: who to call, status call, radio setting, radio mode.
Alphanumeric Search **RADIO 5 GROUP 1...** Alphabetic display

DATA ENTRY **SELECT STATUS** → Select status from list of status labels: **LUNCH BACKIN15 AT SITE1...**

USER SETTINGS
- **HANDSET** → Handset mode: on/off
- **LOW PWR** → Transmit at low power: on/off
- **KEYLOCK** → Keypad lock: on/off Long press to unlock
- **SQUELCH** → Squelch: city/country
- **DTMF** → Dual Tone Multifrequency (DTMF) mode: on/off
- **QUEUE** → Queue incoming calls: on/off. Maximum 20 calls
- **QUIET** → Quiet. Do not disturb: on/off
- **DYN PWR** → Dynamic power control: on/off (MPT1327)
- **PTTLOCK** → PTT Lock. PTT is locked.

ALERT SETTINGS
- **TONES** → Radio Tones: on/off
- **LEVEL** → Volume of Radio Tones: high/low
- **KEYTONE** → Keypress Tones: on/off

DISPLAY SETTINGS
- **NIGHT** → Night use mode: on/off
- **ADJUST CONTRAST** → Adjust contrast of display

ADV SETTINGS
- **SELECT SITE** → Select Site (control channel) from list: **123 156...**
- **RESUMING** Resuming normal signal hunting
- **SELECT NETWORK** → Select Network from list: **NETWORK1...** Short press for Radio Identification.
- **VERSION INFO** → Select version from list: **SW VER MAIN DB** Software Database **HW VER CAL DB** Hardware Calibration

Modes

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

Backlighting
When you press a key, the backlighting is turned on. Turns off after 1 to 10 seconds of no activity.

Night Use mode
If on, the keypad backlighting is turned on when there is activity on the channel or if a scan group is selected. Turns off after 1 to 10 seconds of no activity.

Conventional Mode Radio to radio

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.

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 despatcher 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 despatcher 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 despatcher can be ignored or accepted.

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	F3 Short Press	F3 Long Press	External 1	External 2
Disabled								
Tones – Beep on / off								
Dynamic Power Control on / off								
Preset Call #1								
Preset Call #2								
Select Site (control channel) – 5040 only								
Clear								
Do Not Disturb (DND) on / off								
Adjust Contrast of Display								
Backlighting on / off								
Night Use Mode on / off								
Handset Mode on / off								
Transmit at Low Power on / off								
Monitor on / off								
Keypad Lock on / off Long press to unlock								
DTMF mode on / off – 5040 radio only								

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

Trunking Call Functions _{5040 radio only}

Common Trunking Functions
R = Radio number G = Group number

Dialling String	Function
∗0 # #0 #	Request base despatcher to call you back Cancel
∗0∗RRR # #0∗RRR #	Request another despatcher to call you back Cancel
∗0SS∗RRR # ∗0PP∗RRR #	Status call. SS = status 01 to 30 Status label to despatcher. PP = preset 00–99
∗1∗GGG # ∗11∗GGG #	Conference call to group GGG Broadcast call to group GGG
∗31∗NNN #	Non-prescribed data calls
∗41∗RRR # #41#	Divert own calls to radio RRR Cancel
∗41∗0NNNN... # #41#	Divert own calls to PSTN NNNN... Cancel
∗44∗RRR∗RRR # #44∗RRR #	Divert third party calls from RRR to RRR Cancel
∗48 # ∗480	Queue incoming calls. Cancel = #48 # Empty the Queue
∗49 # #49 #	Quiet. Do not disturb Cancel
∗700 # ∗701 #	Display the name of the current network Change to network 1 to 4 (701 702 703 704)
∗8∗RRR # ∗8∗1∗GGG #	Priority call to radio number RRR Priority conference call to group number GGG
∗9∗RRR # ∗9∗1∗GGG #	Emergency call to radio RRR Emergency conference call to group GGG
∗∗49 #	Abbreviated dialling codes 1 to 49
#45 #	Cancel call divert from other user

PABX extension or PSTN number
Calls can be sent or received from Private Automatic Branch Exchanges (PABX) and Public Switched Telephone Networks (PSTN). Dial the code and number then # or Menu. See your fleet manager for the code. You don't need to dial the area code if in the same area code region.

DTMF
Dial Tone Multi-Frequency. International standard. Uses tones to dial direct to a landline, such as for communicating with telebanking systems. Turn on DTMF in the menu then make the call. To send A, B, C or D commands, press the PTT key whilst pressing 2, 5, 8 or 0.

Tip
Dial your own number for a test

MPT1343 Common Call Setup

Dialling String	Call To	Example
0	PSTN number	0 03 3456789 #
20 to 89	Radio in same fleet as you (RR)	89 #
200 to 899	Radio in same fleet as you (RRR)	899 #
2001 to 6050	Radio in another fleet with same prefix as you	6050 RRR #
200 to 327	Radio in another fleet with different prefix to you	327 6050 RRR #
90 to 99	Group in same fleet as you (GG)	90 #
900 to 999	Group in same fleet as you (GGG)	900 #

ANN Fleet Calls

Fleet Size	Call To	Example
Large	Radio 234 in Fleet 1 with same prefix as you	7 1 234 #
	Radio 235 in Fleet 2 with different prefix i.e. 32	7 32 2 235 #
Medium	Radio 23 in Fleet 51 with same prefix as you	7 51 23 #
	Radio 23 in Fleet 52 with different prefix i.e. 126	7 126 52 23 #
Small	Radio 23 in Fleet 80 with same prefix as you	7 (8or9) 80 23 #
	Radio 23 in Fleet 81 with different prefix to you i.e. 3	9 3 81 23 #

LMS Dialling

Call Type	Call To	Example
Own fleet	Radio 213 in Fleet 34 in same fleet as you	213 #
Interfleet	Radio 215 in Fleet 36 (another fleet)	36 215 #
Interprefix	Radio 217 in Fleet 38 (another fleet) of Prefix 202	202 38 217 #

Preset Numbers

Dialling String	To	Example
0 then 0 to 99 #	Preset strings (leading zero)	069 #

Conventional Channels

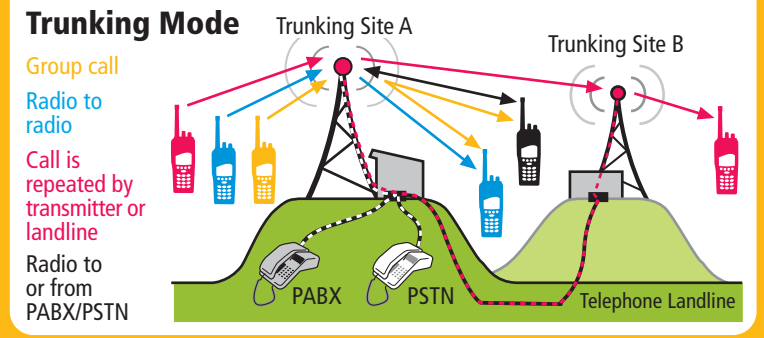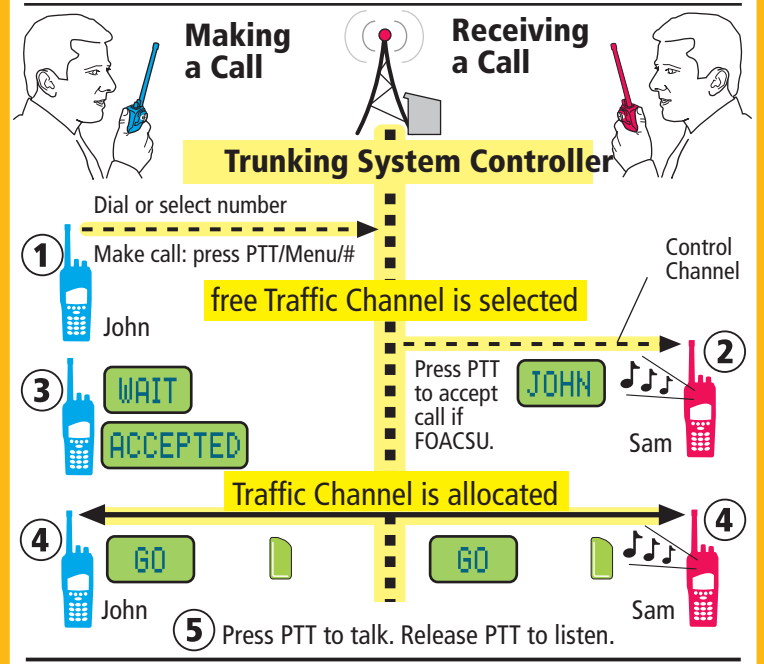| Dialling String	To	Example
101 to 110 #	Conventional channels	106 #

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 80ºC (176ºF) the radio will make two short high-pitched beeps and will not work. Temperatures above 90ºC (194ºF) cause permanent damage to the radio.

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, if performance is poor, and after more than two weeks of storage.
◆ Do not charge a 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.

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

Cd

Trunking System _{OACSU – on air-call setup
FOACSU – full off air-call setup}

Making a Call   **Receiving a Call**

Trunking System Controller

Dial or select number
① Make call: press PTT/Menu/#
John

free Traffic Channel is selected

③ WAIT
ACCEPTED

Control Channel

Press PTT to accept call if FOACSU.
② JOHN
Sam

Traffic Channel is allocated

④ GO   GO ④
John   Sam

⑤ Press PTT to talk. Release PTT to listen.

Trunking Mode
Trunking Site A   Trunking Site B

Group call
Radio to radio

Call is repeated by transmitter or landline

Radio to or from PABX/PSTN

PABX   PSTN   Telephone Landline

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

If the display is blank after turning on the radio and the radio turns itself off automatically after a few minutes, it is likely there is no power.

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

ERROR XX   Contact your authorised Tait dealer or your company administrator.

Battery is low. Charge the battery.

Battery is too low to operate the radio. Turn off the radio. Charge the battery.

Checklist
◆ Is the radio turned on?
◆ Is the correct channel selected?
◆ Is the battery installed on the radio?
◆ Is the battery charged?
◆ Is the antenna damaged?
◆ Is the battery charger working properly?

Accessory Use

Installing the Battery

Removing the Battery

Using the radio, lapel microphone and carry case

Installing the D-clip
① 15º ② ③ ④

Removing the D-clip
① ② ③

Belt Loop

①
Install the Belt Loop

②

③

Remove by peeling apart

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

Carry Case

Installing the Radio and Carry Case

① Install the Radio

② Install the Carry Case

③ Install the clip

Removing the Radio and Carry Case

② Slide the Carry Case upwards

Rotate the Carry Case by 180 degrees

①

Unfasten the Clip and remove the Radio

③

Accessories

Contact your authorised Tait Dealer

Antennas

6-Way Multi-Charger

Belt Loop

Battery Charger   Battery

D-Clip

Accessory Connector Kits   Leather Carry Cases

Accessory Adaptors

Earphones, Palm and Lapel Microphones

Headphones

Speaker Microphones

Servicing and Programming Kits   Car Kit

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 occupational users in a controlled 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 50% 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.

WARNING