Technical Note TN-923-SR

Tait Orca 5030, 5035, 5040 Firmware Upgrade to 4.27 & TOP-TPA Upgrade to 4.0.1

15 October 2004

Applicability

This Technical Note applies to the firmware utilised in Tait Orca 5030, 5035 and 5040 MPT1327 Trunked radios.
It also applies to the Trunked Programming Application v4.0.1 used to read/program radio personality files.

1. Introduction

What is in this Technical Note?

The Orca Trunked Firmware v4.27 has been released to manufacturing to replace the previous firmware (v4.26) being installed in Tait Orca 5030, 5035 and 5040 Trunked products.

Version 4.27 Firmware was first implemented in an Orca TOP-XXXXX-XX, radio serial number XXXXXXXX, job XXXXXXXX, on XXXXXXXXXX. (This information will be inserted and the Technical Note updated when this information is available).

What does it work with?

This Firmware is compatible only with Tait Orca Trunked Programming Application TOP-TPA v4.0.1 or later.

The TOP-TPA v4.0.1 is available on the Tait Portables Programming Utilities (TPPU) v4.00.04 CD-ROM as IPN 406-00003-07, or available for download from support.taitworld.com.

2. Changes

What has been resolved in this release?

The Firmware version v4.27 resolves the following issues in the Orca 5030, 5035 and 5040:

- Corrected issue where the volume control was not set correctly when operating in 'Handset' mode. (Raised as TIMS 15146).
- Corrected issue where 'Full' call queuing was operating in the same fashion as 'Unanswered' call queuing. (Raised as TIMS 26539).
- Corrected issue where the 'Unanswered Call Timer' was double that of the programmed value. (Raised as TIMS 28015).
- If an emergency call is queued it will now be indicated as having been an emergency call by displaying an 'E' in front of the 'CL1/1' in the queue. ie the radio will display 'ECL1/1 Unit ID'. (Raised as TIMS 32154).

Implemented Enhancements

The feature enhancements to the PC Application TOP-TPA v4.0.1 below were implemented in conjunction with the Firmware v4.27 changes.

- FOCUS 11764, 15341: Trunked Radio Ringing Options. (Raised as TIMS 18690). The entire 'User Selectable' page has been re-organised to better define the available options. Instead of one 'User Selectable' page with all options, this has now been broken down into three separate tabs – 'General', 'Display' and 'Tones'.

General

There have been no additions made to this tab. This groups user selectable items that are not display or tone specific.
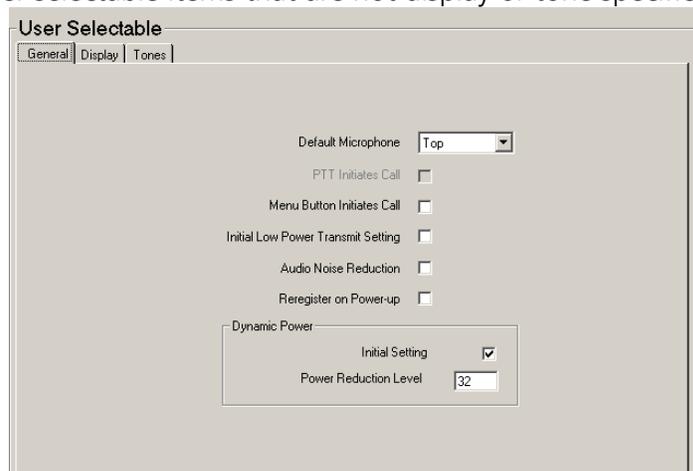
Display

There have been no additions made to this tab. This groups user selectable items that are display specific.

Tones

This features a number of new features. These are described below.

Audible Indicators
- Enabled – Initial Setting : No change in functionality
- Initial Indicator Level : No change in functionality
- Tone Set : No change in functionality
- Tone on Individual Calls : New function. When enabled all incoming and outgoing individual call setup tones will generate the normal setup tones. When disabled all

incoming and outgoing individual call setup tones are disabled. **Note: The tone set must be set to 'Tait' for this to be available.**

- Tone on Group Calls : New function. When enabled all incoming and outgoing group call setup tones will generate the normal setup tones. When disabled all incoming and outgoing group call setup tones are disabled. **Note: The tone set must be set to 'Tait' for this to be available.**
- Tone on Emergency Calls : New function. When enabled all incoming and outgoing emergency call setup tones will generate the normal setup tones. When disabled all incoming and outgoing emergency call setup tones are disabled. **Note: The tone set must be set to 'Tait' for this to be available.**
- Tone on Queue Calls : New function. When enabled all incoming and outgoing queue call setup tones will generate the normal setup tones. When disabled all incoming and outgoing queue call setup tones are disabled.

Keypress Confidence Tones
- Enabled – Initial Setting : No change in functionality

Status – New function
- Alert Duration : The length of time the radio alerts the user to a status message having been received can now be altered. If this value is set to anything other than zero, then the 'Ring Pattern' field will become available.
- Ring Pattern : Allows an eight digit code using the numerical values 1 and 0 to define a 'ring sequence'. 1 indicates a tone, and 0 indicates a gap.
Note: The tone set must be set to 'Tait' for this to be available.

SDM – new function
- Alert Duration : The length of time the radio alerts the user to a SDM having been received can now be altered. If this value is set to anything other than zero, then the 'Ring Pattern' field will become available.
- Ring Pattern : Allows an eight digit code using the numerical values 1 and 0 to define a 'ring sequence'. 1 indicates a tone, and 0 indicates a gap.
Note: The tone set must be set to 'Tait' for this to be available.

Ring Patterns – new function

- Individual : Allows an eight digit code using numerical values 1 and 0 to define a 'ring sequence' when an individual call is received. 1 indicates a tone, and 0 indicates a gap.
- PABX : Allows an eight digit code using numerical values 1 and 0 to define a 'ring sequence' when a PABX call is received. 1 indicates a tone, and 0 indicates a gap.
- PSTN : Allows an eight digit code using numerical values 1 and 0 to define a 'ring sequence' when a PSTN call is received. 1 indicates a tone, and 0 indicates a gap.
- Emergency : Allows an eight digit code using numerical values 1 and 0 to define a 'ring sequence' when an emergency call is received. 1 indicates a tone, and 0 indicates a gap.
- Include : Allows an eight digit code using numerical values 1 and 0 to define a 'ring sequence' when an include call is received. 1 indicates a tone, and 0 indicates a gap.

Note: Either Full Off Air Call Setup or Mimic Full Off Air Call Setup must be enabled and the tone set must be 'Tait' for these Ring Patterns fields to be available.

Mimic Full Off Air Call Set Up – new function
- Enabled : This allows the radio to 'mimic' the Full Off Air Call Set Up (FOACSU) functionality when the system does not support FOACSU.
- Alert Duration : Specifies the length of time the radio will alert the user when the Mimic FOACSU option is enabled.

Operational Example

1. Radio A has Mimic FOASCU enabled with an alert duration of 30 seconds. The system does not support FOACSU.
2. Radio B calls Radio A.
3. Radio A goes to the traffic channel immediately, however it begins ringing like in a FOACSU system.
4. Approximately every 6 seconds Radio A transmits a 'ring' over the air to Radio B. This indicates to Radio B that the call is unanswered.
5. Radio A user presses PTT. Radio stops ringing and communications take place as normal.
6. If Radio A uses does not press the PTT before the Alert Duration expires the radio will clear the call down.

Limitation

Due to the called radio transmitting a 'ring' over the air to indicate to the calling radio that the call is unanswered there may occasionally be instances where the system or calling radio may issue a clear down and the called radio will not receive this clear down – due to it transmitting at the same time.

- FOCUS 14917: Call queuing has been enhanced, with the label previously called 'None' being renamed to 'Last' to accurately reflect the operation. (Raised as TIMS 28390).
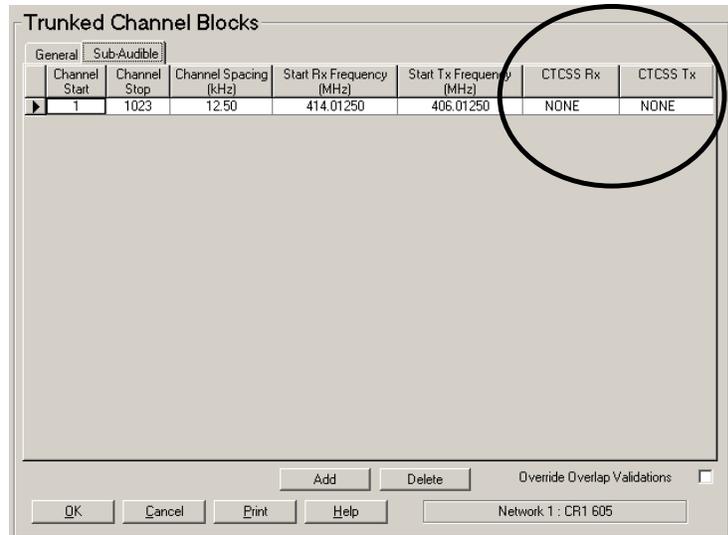

When 'Last' is selected only the last unanswered call is queued.

Also when call queuing is set to 'Last', instead of the user having to navigate through the queue menu structure, the Unit ID of the last missed call will be displayed on the LCD of a 5035 or 5040. The user may PTT to immediately call back the unit displayed on the LCD.

- A transmit and receive CTCSS frequency can now be defined for each trunked channel block. The CTCSS Rx field sets the sub-audible signalling that the radio must receive on the traffic channel before the activity is regarded as valid and the mute is opened. The CTCSS Tx field sets the sub-audible signalling that accompanies each transmission made on the traffic channel. (Raised as TIMS 29443).

  Note: The sub-audible frequency will only be used on the traffic channel.

Channel Start	Channel Stop	Channel Spacing (kHz)	Start Rx Frequency (MHz)	Start Tx Frequency (MHz)	CTCSS Rx	CTCSS Tx
1	1023	12.50	414.01250	406.01250	NONE	NONE

Changes to the TOP-TPA v3.8.0

- Under specific circumstances an application error would occur when attempting to add a Nokia ANN Fleet. (Raised as TIMS 28149).
- If attempting to program a conventional radio, the application would return an error, but modify some of the fields in the application. (Raised as TIMS 31067).
- The 'Motion Sensor' option has been removed from the 'Worker Detection' drop-down list on the 'SOS Call Options page, as no mainstream motion sensor accessory is available at this time. (Raised as TIMS 32390).

Compliance Issues

None, unless specifically required by Network Operator.

CSO Instruction

CSO's – Please inform all logistics, sales and technical staff of these changes

3. Issuing Authority

Name and Position of Issuing Officer	Tim Lummis Technical Support Engineer
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