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## TECHNICAL NOTE TN-822d

# How to Use the Software Feature Enabler Application

18<sup>th</sup> April 2006

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### Applicability

This Technical Note is intended to be used as an instruction guide on how to use the on-line application that allows Software Feature Enabling (SFE) codes to be generated and regenerated for repair for the following products:

- TB7100 Base Stations
- TM8000 Mobiles
- TM9100 APCO Digital Mobiles
- TP9100 APCO Digital Portables
- TB8100 Base Stations
- TB9100 APCO Digital Base Stations

The Technical Note also details how to enable and disable features in the products and aspects of board swapping.

## 1. Background on SFE.

### What is an SFE?

A **S**oftware **F**eature **E**nabling key code (formally known as a Feature License Code (FLC)) that, once programmed into the product, turns on a feature that was not previously available to the user. This code is a purchasable item.

### Who can get an SFE?

Currently only the Tait CSO's can order SFE codes. In future, once the appropriate systems and IT applications are in place, customers may be able to order upgrades over the internet.

### How do I order and SFE for my product?

Please refer to TMS document TE0738 for ordering details

### Can I get access to the SFE code generator?

Please refer to TMS document TE0738 for details

## 2. Using the SFE Generation Application

### User Instructions

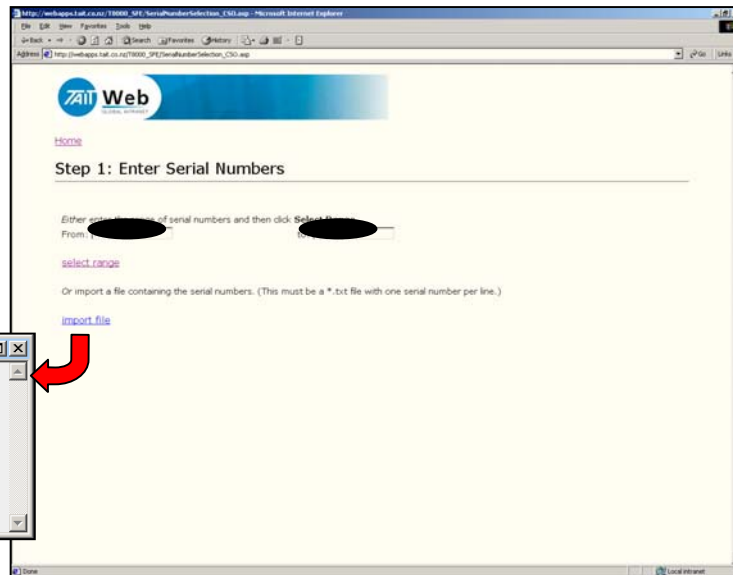
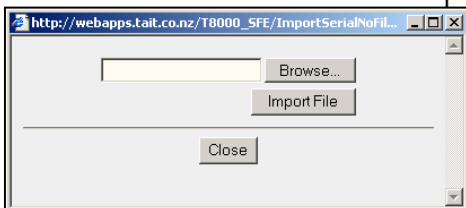
To obtain a SFE code, please follow the steps below:

- 1) Go to the following web address.  
[http://webapps.tait.co.nz/T8000\\_SFE/MainMenu\\_CS0.asp](http://webapps.tait.co.nz/T8000_SFE/MainMenu_CS0.asp)
- 2) Please note that this is a Taitweb address. Unless you have access to the Taitweb website the SFE website will not be shown.
- 3) You will be prompted to enter in your generic TaitWeb login information before the title screen will be displayed.
- 4) You will then be presented with the screen pictured below:



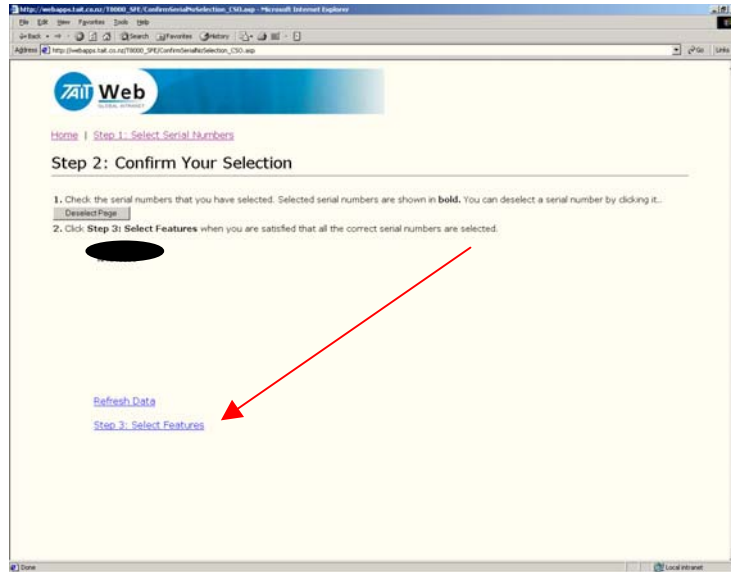
- 5) Left click with your mouse onto the link titled "Purchase License Keys".
- 6) You will now be presented with a screen asking you to enter in a serial number range or import a \*.txt file (see picture below). Please select one of the options.

**NOTE:** If you are to load in a .txt file, please ensure the serial numbers are listed one serial number per line.

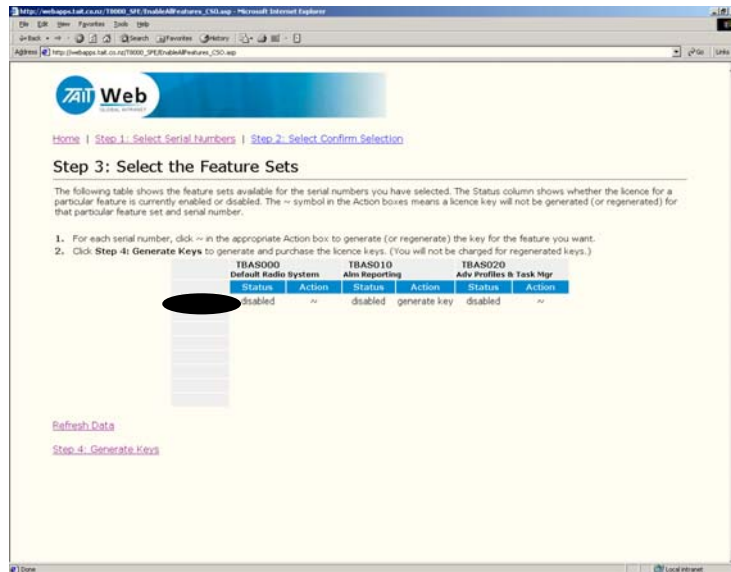


## Instructions (Cont)

- 7) The next screen shown is the one pictured below. Please confirm that the serial number range you have entered is correct for your needs. Once confirmed, please click on "Step 3: Select Features".



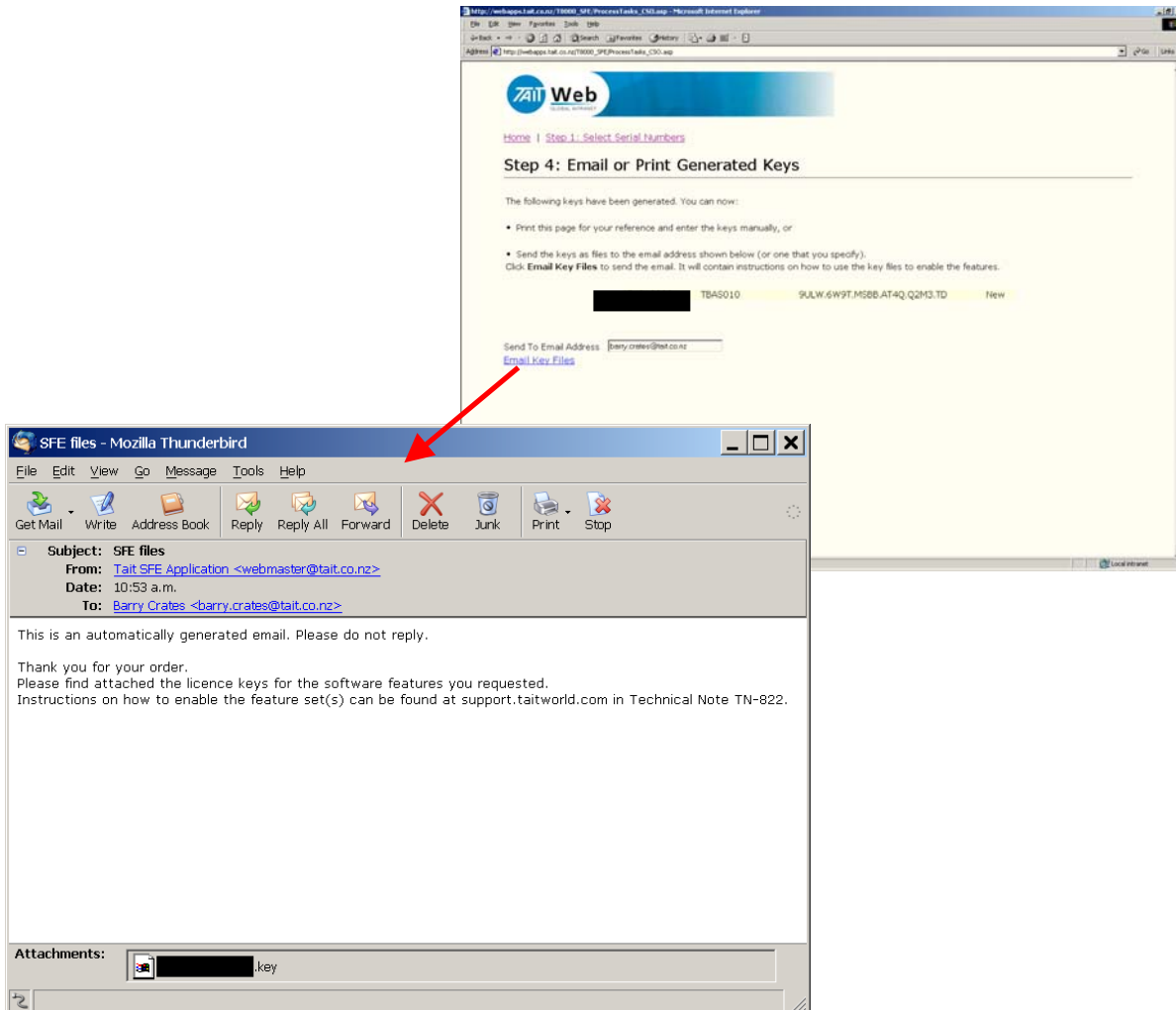
- 8) You will now be presented with a screen indicating which features can be enabled for the product type (only TM8000 and TB8000 series products allowed currently, APCO product in future).



- 9) Using the mouse, click the "~" symbol. This will change from the "~" symbol to the words "Generate Key". If the feature was already enabled on a particular serial number, the "Status" field will display "enabled". If you click on the "~" key for a feature that was already enabled, the "~" will change to display the words "Regenerate Key".
- 10) Once all desired selections have been made, click on "Step 4: Generate Keys".

## Instructions (cont)

- 11) The next screen to be displayed is pictured below. This screen will detail (in this order):  
Serial Number; Feature Number, SFE Code; Status. The status will be listed as **“new”** or **“regenerated”**.
- 12) You now have the option to either print the information or e-mail it to an address. To e-mail, you must enter in a valid e-mail address into the field provided. Then click on **“Email Key Files”**



- 13) At this stage, the SFE key generation process is complete. If you require to generate more SFE keys, click on **“Step 1: Select Serial Numbers”** to start the process again.
- 14) If you have completed generating the keys you require, exit the application.

## What happens if an SFE feature is disabled?

The only way that an SFE feature can purposefully be disabled is in the programming application using the SFE tool. When a feature is disabled, a disable key is generated. This key will always be able to be read and displayed until the feature is enabled again.

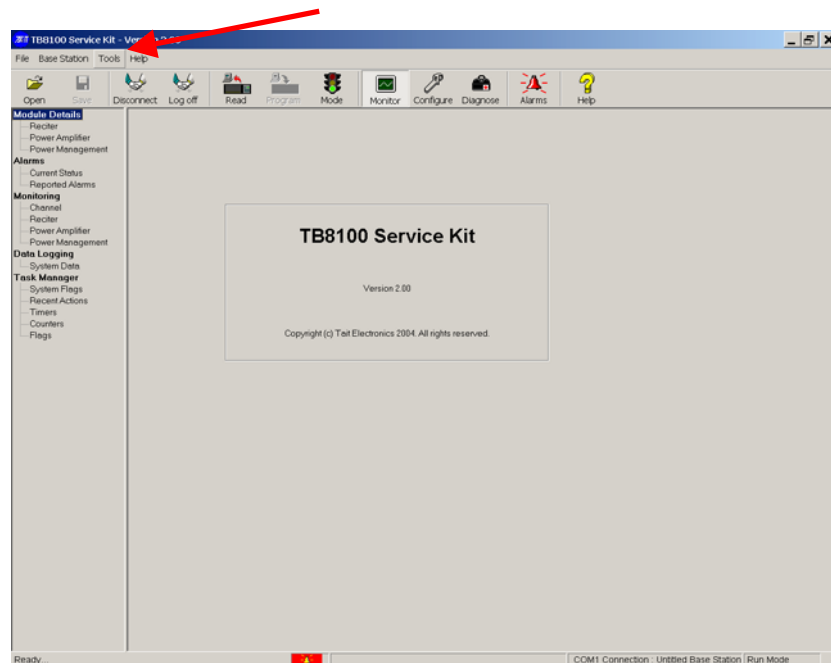
However, to enable the feature again, the disable key needs to be provided to the SFE Administrator for your region. This key is then entered into the SFE database in association with the serial number of the radio. This effectively completes the cycle of disabling the feature.

The entering in of the disable key into the database not only sets the feature to 'Disabled' in the database, but also increments the database which in turn allows a new SFE key to be generated for the radio.

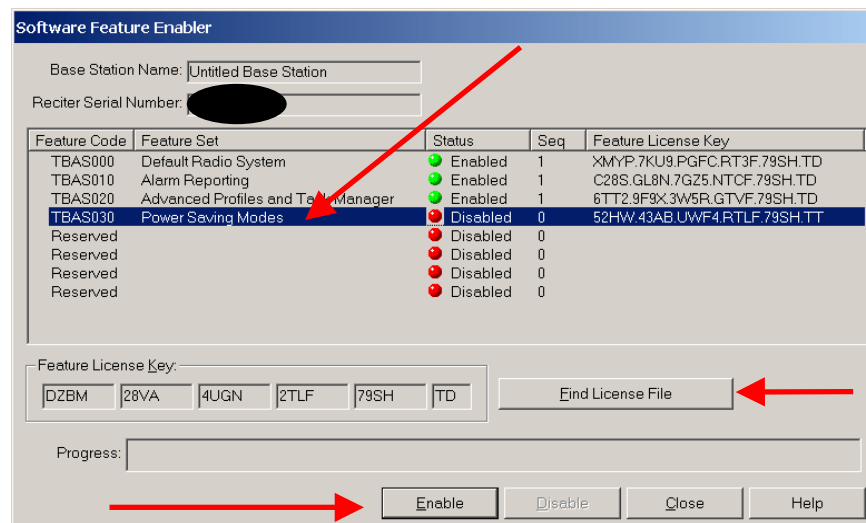
## How to Program the Key into my TB8100 / TB9100

Instructions are always attached to the e-mail message that is sent with the SFE key file. (Please note, screen shots used below are from the TB8100, but the process are the same and the screen shots similar)

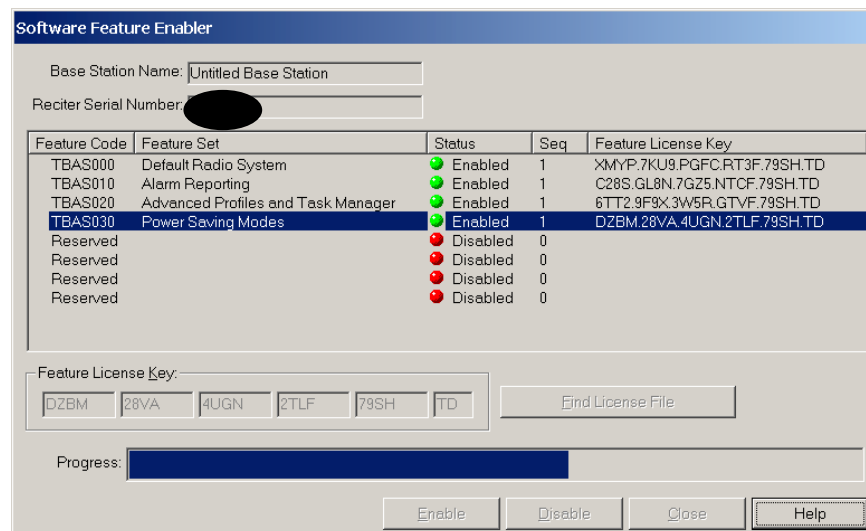
1. Connect and log on to the base station.
2. Save the license files (and any others that you received for other feature sets or other base stations) to the Programming application's license file folder (select Tools > Options to see which folder the Service Kit uses).
3. IMPORTANT: If you received a ZIP file containing multiple license files, you MUST unzip the contents of the ZIP file and save the individual license files into the correct folder.
4. Go into Standby mode, and then select Tools > Software Feature Enabler.



- Click the feature set to select it.



- Click Find License File. This searches the license file folder for a license file for the current base station and the selected feature set. If the
- Programming Application finds one, it displays the license key (in the feature set's row and in the Feature License Key boxes), and increments the Seq column by 1.
- Click **Enable**. This enables the feature set. The license key appears in the feature set's row and the Seq column is incremented by 1



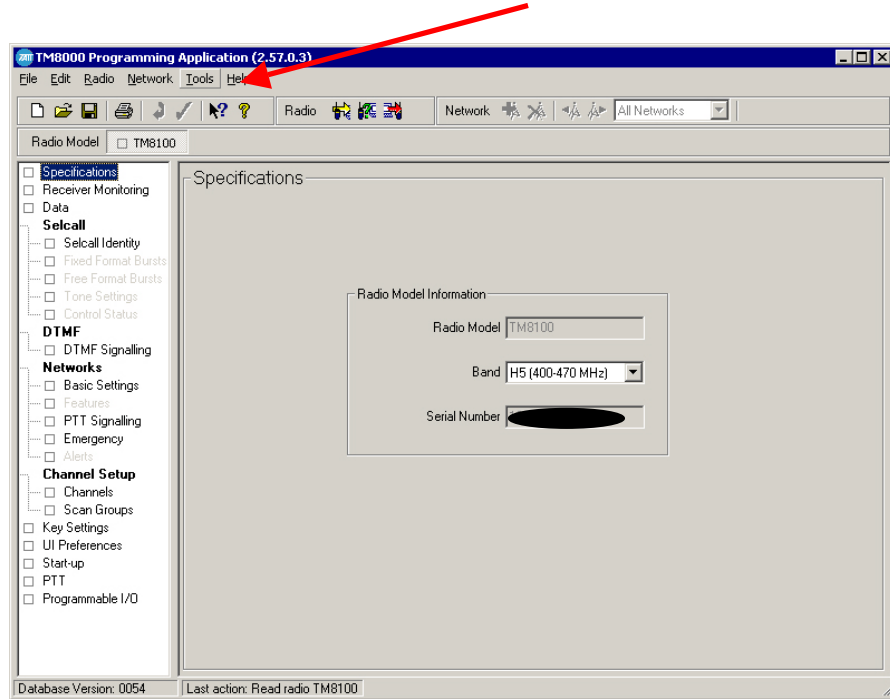
- The feature has now been enabled in the product.

**How to Program the Key into my TM8000 / TM9100 / TB7100**

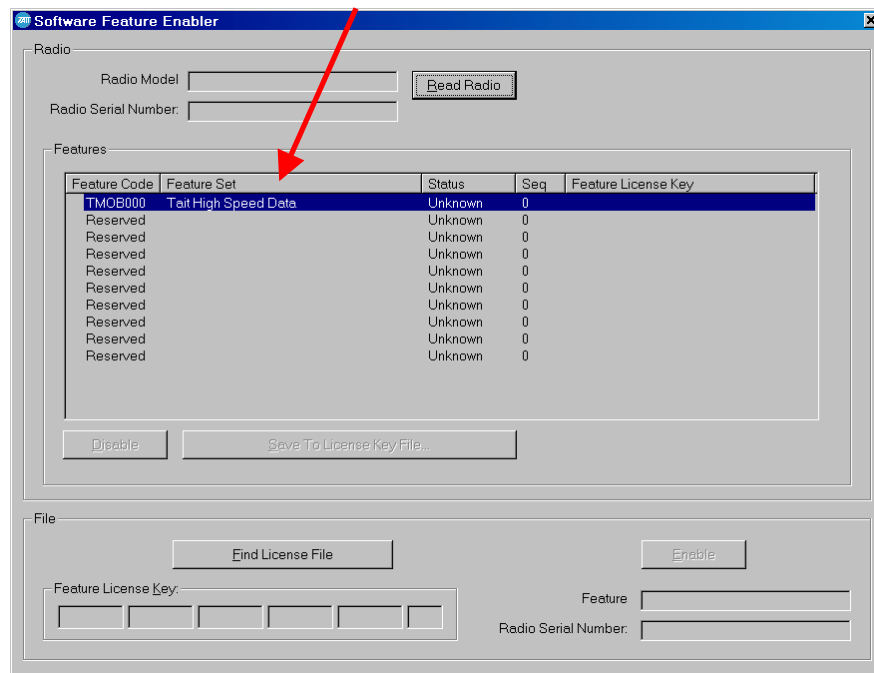
TM8100 shown in the screen shots below.

To enable an optional feature

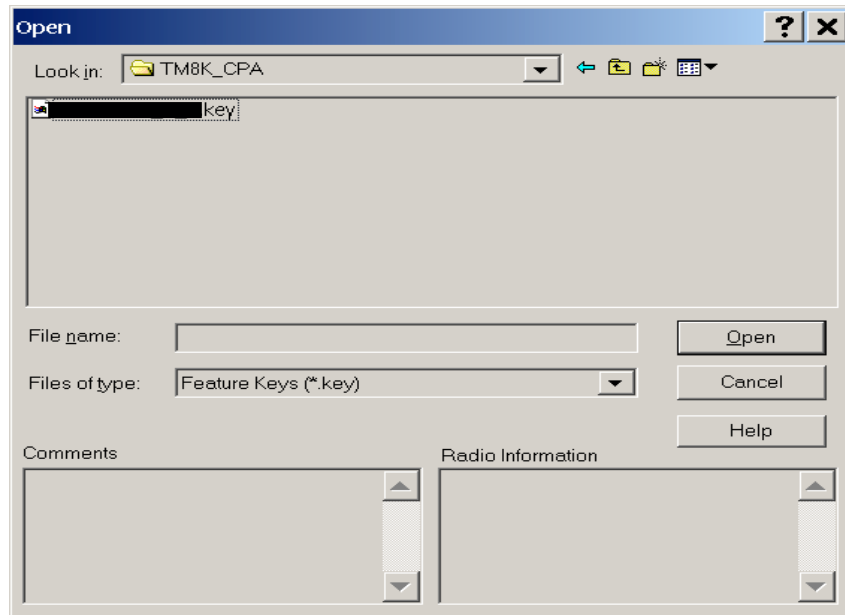
1. Read the radio. See Reading a radio for more information.
2. Select the Tools > Optional Features menu command.



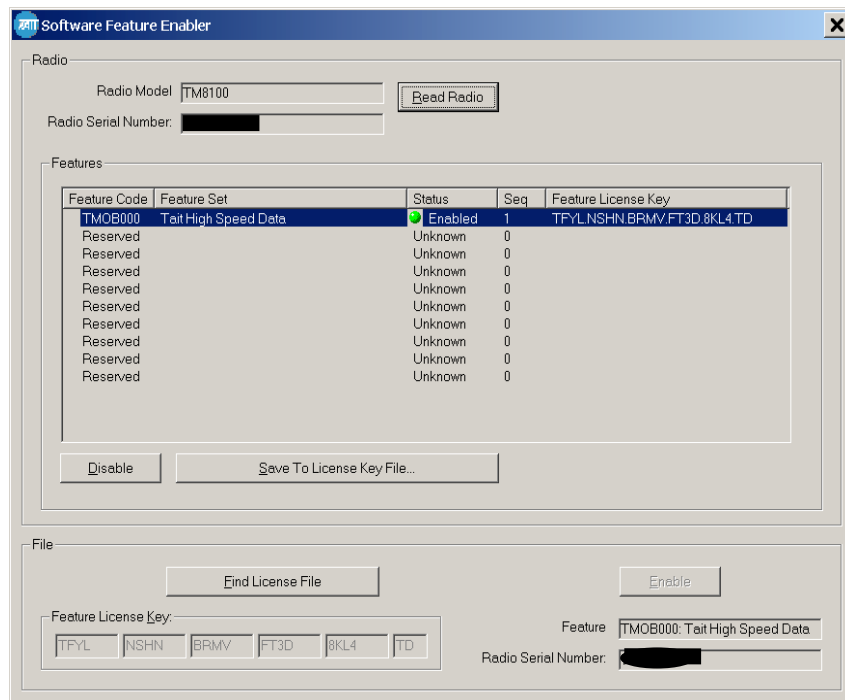
3. Click on the feature set that you want to enable in the Features box.



- Obtain and enter a license key by clicking the Find License File button, and double click a \*.key file.



- Click the Enable button



- Close the SFE Window.
- Enable relevant programmable settings. For example, to enable Tait high-speed data, select the Modem Enabled check box.

Please note: If programming a TB7100, you will need two SFE keys for each sub-assembly used in the TB7100 system.

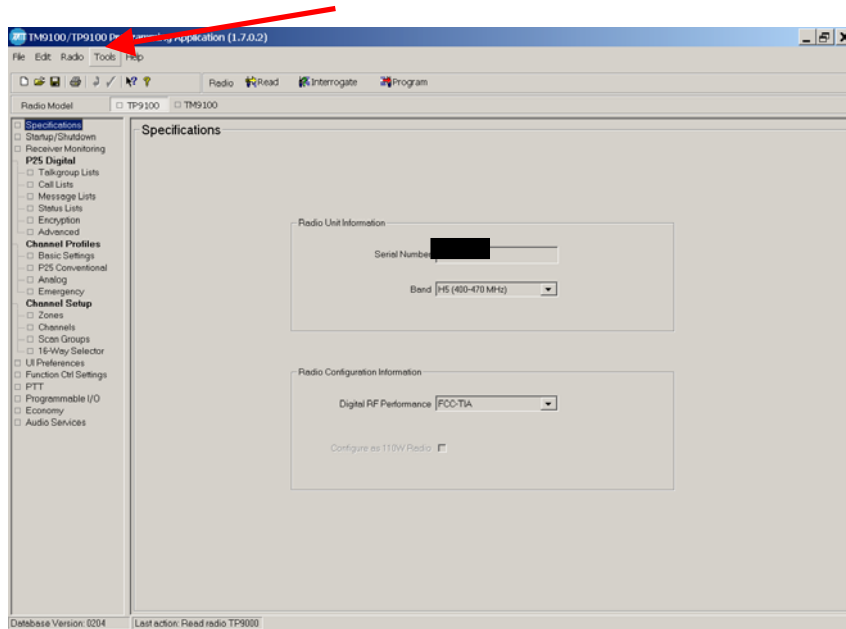


## How to Program the Key into my TP9100

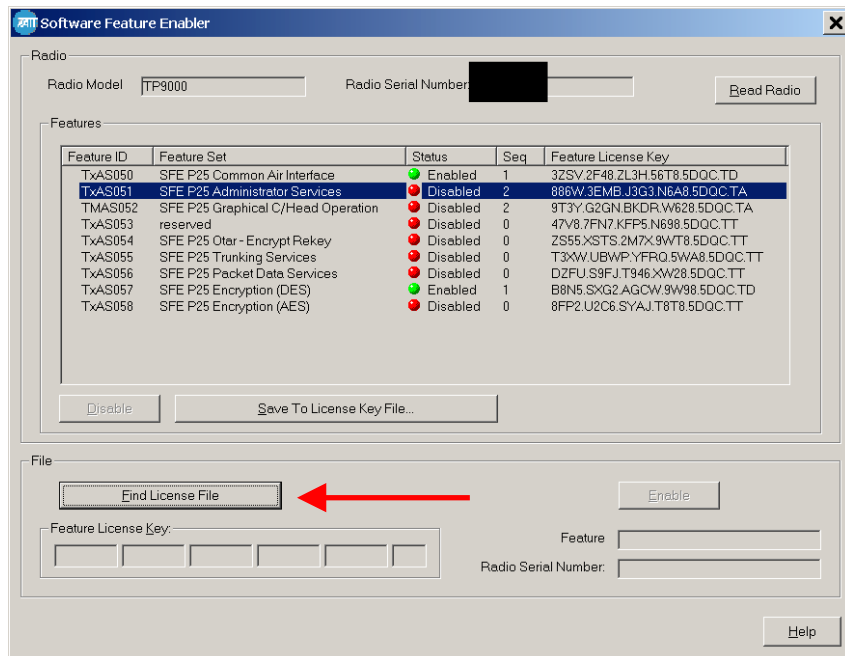
TP9100 shown in the screen shots below.

To enable an optional feature

1. Read the radio. See Reading a radio for more information.
2. Select the Tools > Optional Features menu command.

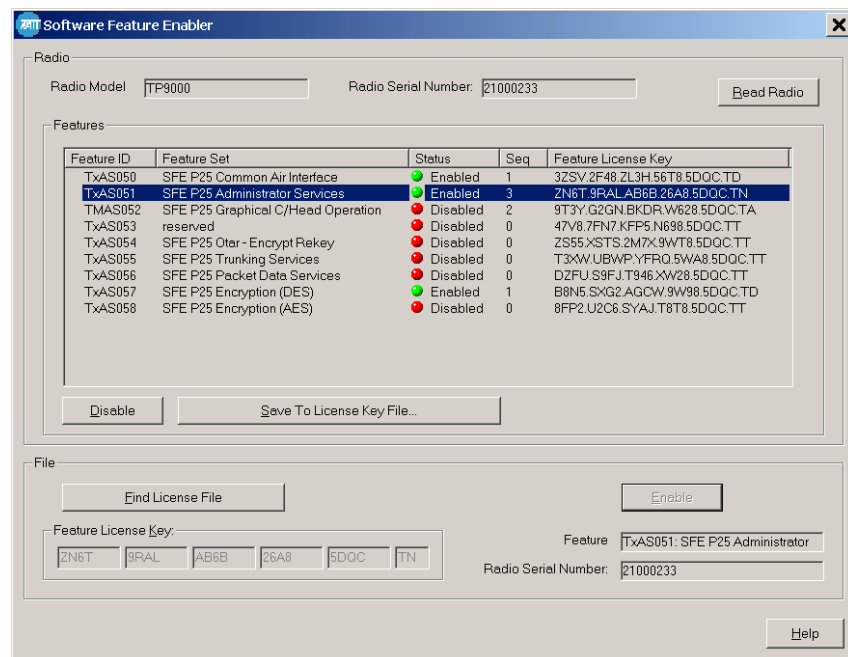
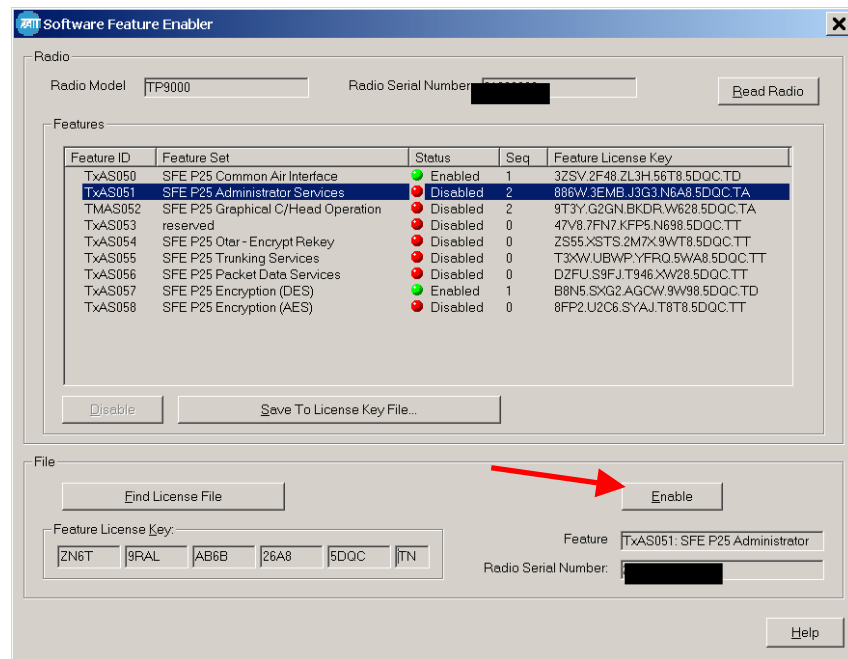


3. Click on the feature set that you want to enable in the Features box.



4. Obtain and enter a license key by clicking the "Find License File" button, and double click a \*.key file.

## 5 Click the Enable button

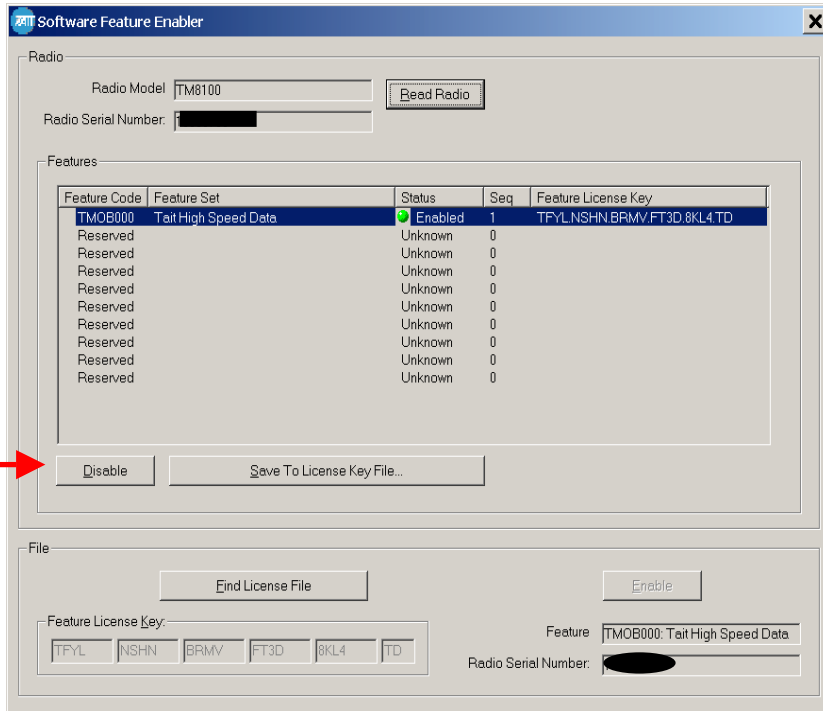


- 8 Close the SFE window.
- 9 Now enable relevant programmable settings. In this example, Admin services are now allowed, which the programmer will need to enable in the XPA under the "Advanced" page

### 3. SFE Disabling Process.

#### How to disable a feature?

- Simply click the "Disable" button.
- The programmer will be prompted to ensure this is the desired action. Press OK
- The radio product will be re-programmed at this stage and the feature disabled.
- The status will change from "Enabled" to "Disabled"



#### What do I do with the disable key?

- Upon disabling of a key, a new code is generated within the radio. This is the **SFE disable key**. This key needs to be provided to Technical Support at the CSO along with the chassis serial number of the product.
- Reason: If the feature is required to be turned on again in the future, the same SFE key used previously to turn the feature on can not be used (The "sequence" (see 'Seq' in the screen shot above) has incremented).
- By providing the disable key to the SFE administrator, the key number can be entered into the database which in turn resets the "Status Field" in the SFE application from "Enabled" to "Disabled".
- This means that next time the feature is required, an SFE key will be generated that will match the sequence the radio is up to for that particular feature.

**CSO's need to be very much aware of this requirement to prevent any possible confusion in the future.**

#### What about Product Demos?

By receiving the SFE disable key, the TEL or CSO logistical staff can now issue a credit to the customer if the feature was only being used for demonstration purposes.

## 4. Product Board Swap Process

### Why does the SFE database need to be updated when a Board Swap is performed?

With products such as the TM8000 and TB8000 series, it is becoming more and more apparent that board swapping will soon become the most economical repair for a product.

However, along with this comes a need to have better traceability of what board is actually inside the product. The SFE requirement compounds this as the SFE key is based on the internal serial number of each individual board, not the chassis serial number.

When a board is swapped, the SFE keys (if features are enabled) will need to be re-generated for the new boards, as the old keys will not function on a new board.

### What will happen if the database is not updated?

If a board swap repair has been made to a customers radio unit, the customer will not notice any problem until they come to purchase an SFE key.

The customer will quote the chassis serial number of the product they have in order to get the key generated. For this example, the chassis serial number is 12345678.

When the product was built from the factory, the internal serial number was 3654321.

However, it has now had a board swap performed and now contains a board with an internal serial number of 3232323.

When the SFE board swap application is asked to generate a new SFE key for the customer radio, the application will generate an SFE key for serial number 3654321 and not 3232323.

The end result is the SFE will not work for the customers' radio.

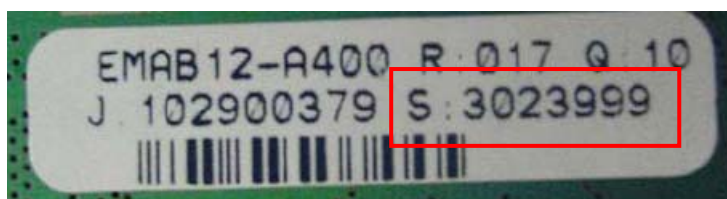
To remedy the problem will require a manual database search that will take time and cause delays for the customer and potential damage to Tait's reputation.

### What does a Sub-Assembly Serial Number look like?

On the **TB7000**, **TM8000** and **TM9000** series, the subassembly serial number is a 7 digit number that begins with the number **3** (e.g. 3xxxxxx). The location of the label has changed several times since production began (e.g. Bottom side PCB, top of the PA can) The intention is to have sub-assembly labels in one location. This location is on the bottom side, on the digital can. Some assemblies are already labelled this way (TM8100). An example of the TM8000/TM9000 label is shown below.

**TP9000** series hand portables have the sub-assembly serial number located on a label on topside digital can (previously located on the Front End can). The 7 digit sub assembly number begins with the **4** (e.g. 4xxxxxx)

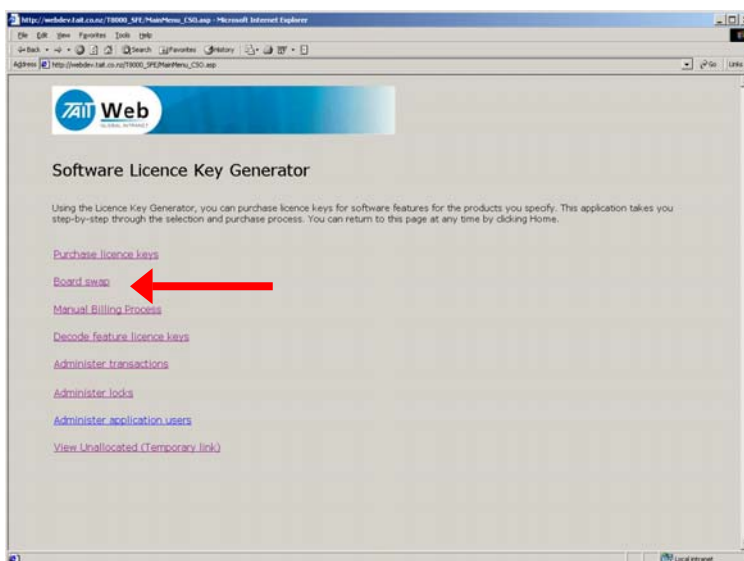
**TB8000/TB9000** have a 7 digit subassembly number that begins with the number **2** (e.g. 2xxxxxx). There are many sub assembly numbers on a complete TB8000 or TB9000 product, however, the one of importance with regards to the "Board Swap" process is the one located on the topside of the digital board PCB.



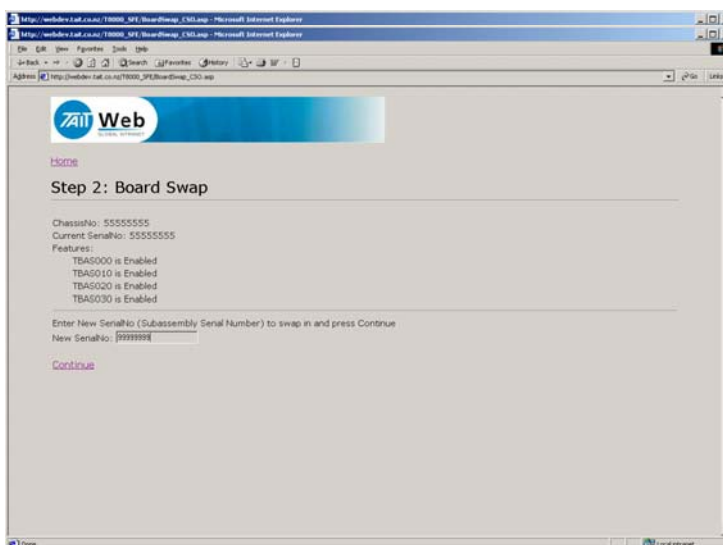
## The Procedure

1) Select the "Board Swap" option from the home page of the SFE application.

NOTE: Access to this option will be limited to key technical support / repair personnel.



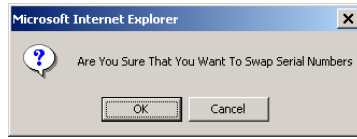
2) Enter in the Chassis serial number of the radio into the field provided, and press 'continue'.



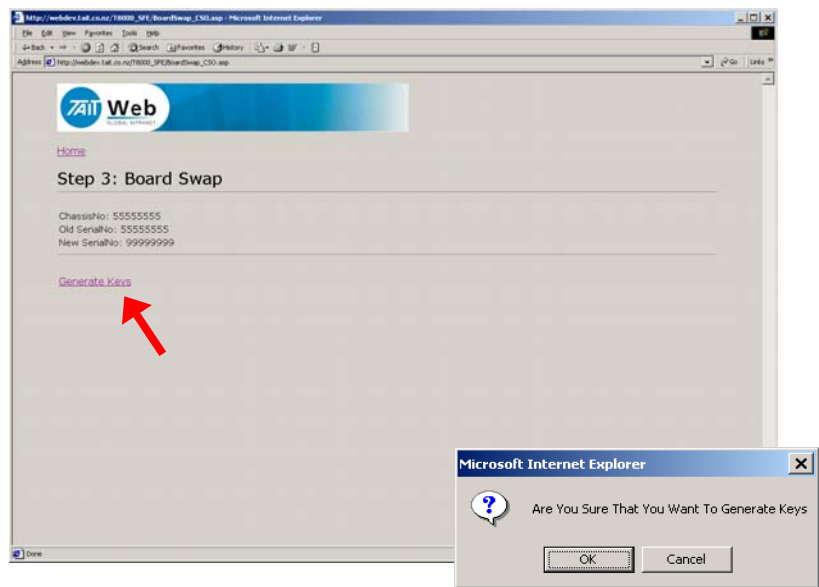
3) The user will then be presented with a screen listing the chassis serial number, the current internal serial number and the current SFE features that are enabled on that product (if any are enabled). Also presented is a field for the user to enter in the internal serial number of the 'replacement' board sub-assembly. Once this has been done, press 'continue'.

### The Procedure (cont)

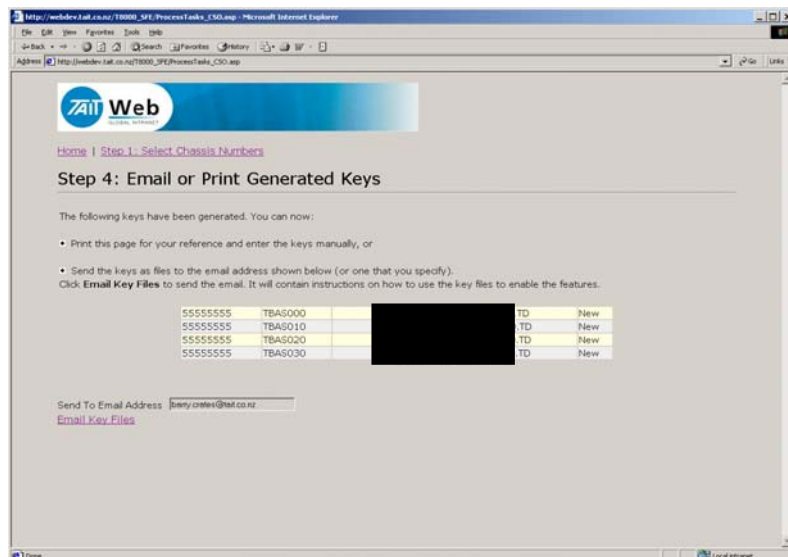
4) The application will then prompt the user asking whether to proceed with the 'board swap'.



5) There are two events that can occur from this point on.  
 5a – If the product had SFE keys previously generated for it, the SFE Board Swap application will recognise this and prompt the user as to whether new SFE keys need to be re-generated for the new internal serial number by providing a "Generate Keys" option. This is followed by another confirmation of action screen.



Once the 'OK' button is pressed, the user will then be presented with a page listing the SFE features and associated new SFE keys generated for the product. The user has the option to enter in an email address to send the key files to.

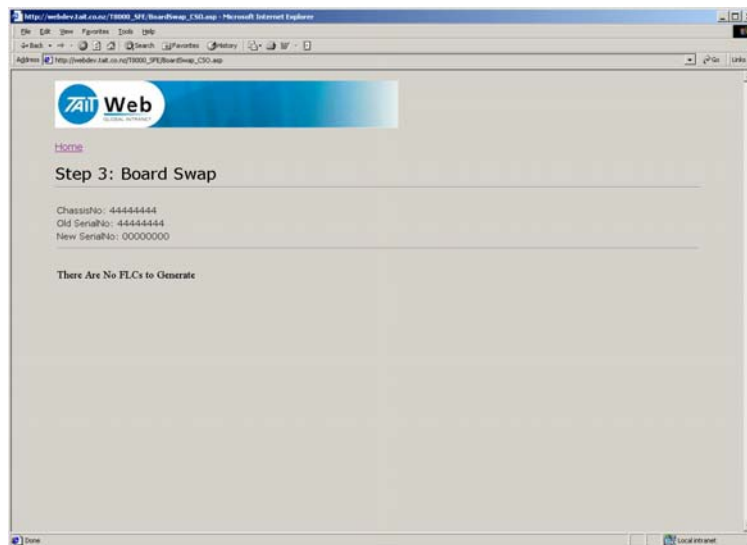


## The Procedure

(cont)

Alternatively:

5b – If the product did not have any SFE keys previously generated for it, the SFE Board Swap application will recognise this and the board swap process would be complete at this point.



**Can a board that has been repaired be reused?**

Yes. When a board is removed from the chassis it was in, this action is recorded in the serial number database that the SFE Board Swap application uses. Any board taken out of circulation because it is faulty goes back into the "Unallocated" list of internal serial numbers. Therefore, if this board is repaired in future, it can be put into another radio as part of a board swap repair.

**Are there any safe guards to prevent error?**

Yes. Firstly, access to the Board Swap feature will be restricted and only those who have had adequate training will be allowed access.

Secondly, the serial number tables used in the application are interrogated on each request for change to ensure that there is no serial number reuse where it is not allowed.

For example – if someone enters an incorrect internal serial number for a board swap, the application will display a message stating:

"Can't do Board Swap – New Serial number is already used".

At this point, both the chassis serial number and the internal serial number of the board subassembly needs to be checked for accuracy.

**Are there any charges involved?**

No. The SFE features regenerated for a repaired radio are free of charge, as the customer has already paid for these features. There are safe guards in the system to ensure the Board Swap feature is not abused.

<b>Compliance Issues</b>	None
<b>CSO Instruction</b>	Please make sure that all sales, technical and logistical staff are aware of the processes that are required to be followed for ordering, freebies and repairs. <b>Please take particular note of the requirements with regards to the SFE disable key.</b>

## 1. Issuing Authority

<b>Name and Position of Issuing Officer</b>	Barry Crates Technical Support Team Leader – Terminal Product		
<b>Confidentiality</b>	Confidential – This message or document contains proprietary information intended only for the person(s) or organisation(s) to whom it is addressed. All Recipients are legally obliged to not disclose Tait technological or business information to any persons or organisations without the written permission of Tait.		
<b>Distribution Level</b>	Tait Only		
<b>Document History</b>	Original Release	Dec 2003	BLC
	Added TM8000 SFE programming information	10 March 2004	BLC
	Added more graphics for the TM8000 and TB8000 SFE key programming process	31 March 2004	BLC
	Added disable process information	8 April 2004	BLC
	Added Board Swap processes information and inserted the TMS document numbers.	1 November 2004	BLC
	Added information on where to find the XSN numbers on the PCB's	24 <sup>th</sup> June 2005	BLC
	Added information about what to do about product demonstrations and the SFE disable key(on page 9)	28 <sup>th</sup> September 2005	BLC
	Added the TP9100 screen shots, broadened TB8100 and TM8000 to include TB9100 and TM9100 information respectively	18 <sup>th</sup> April 2006	BLC