MTL 9000TS (P925TS)

New Input Card Does Not Configure Correctly

Problem

When replacing an Input card in a RTK 9000TS system the new card may not pick up the correct configuration settings.

Root Cause

Each channel has an internal checksum for its settings. This checksum is kept on the Input card and also in the Interface card. It is possible to have two different setting combinations that give the same checksum. This subsequently leads to the settings not being updated when the new card is inserted.

Recommendation

The following Fix process should be followed on any RTK 9000TS system where the Input card is changed.

Fix

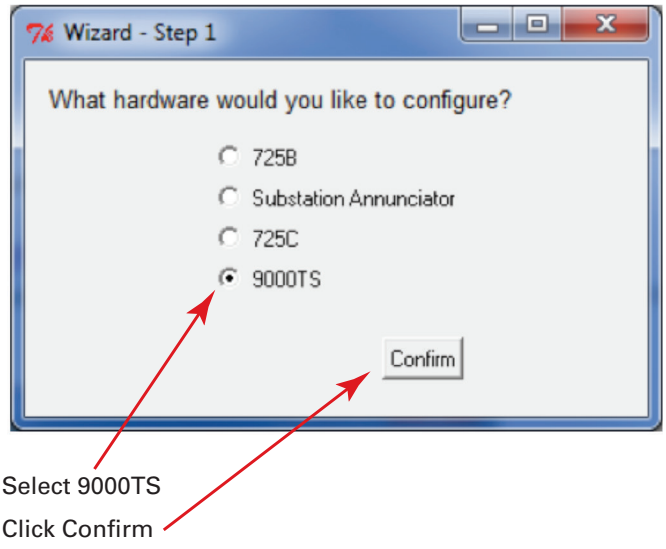
This process deliberately changes the settings to give a different checksum and then puts the settings back to what is required.

NOTE
Read through all instructions before starting.

1. Read Settings

Use the RTK Configurator 'Auto Detect Hardware Configuration' to read the correct settings from the RTK 9000TS unit.

Step 1



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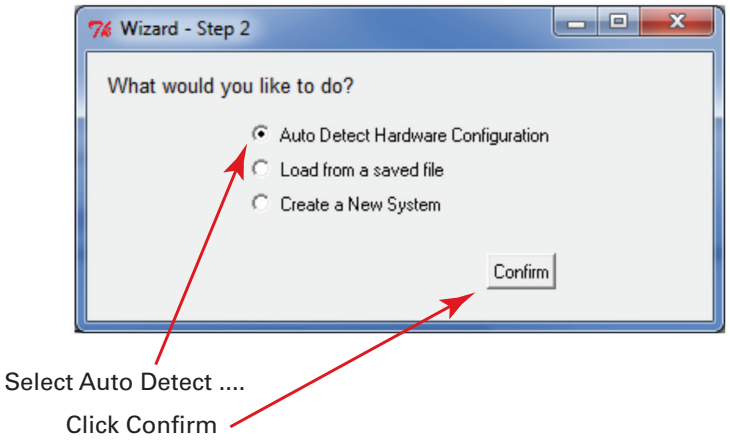
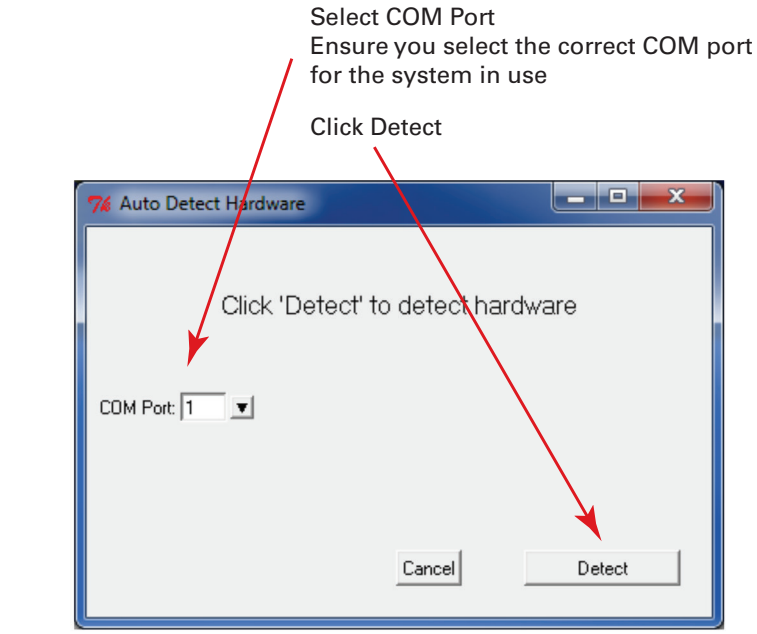
Step 2



Step 3



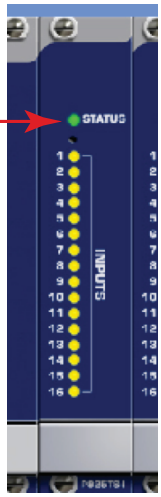
The current system configuration will be shown in the Configurator window.

2. Note Card Settings

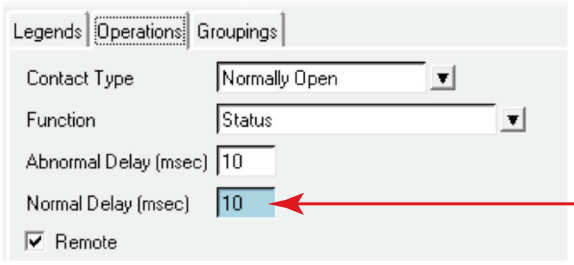
For the changed or about to be changed Input card make a note of the 'Operations - Normal Delay (ms)' settings for each channel. To easily check the setting for all 16 channels at one time it is possible to select all channels by double-clicking on the STATUS LED at the top of the card picture. If the setting is the same for each channel on the card the 'Normal Delay' setting will not be highlighted and this figure noted. If the setting is shown with a blue/grey background each channel will need to be selected individually and the setting noted for each channel.

Step 1

Double-click on STATUS LED position to select all 16 channels.

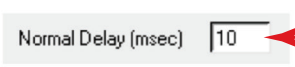


Step 2



Highlighted - channel settings are different.

Note setting for each channel



Not highlighted - channel settings are all the same.

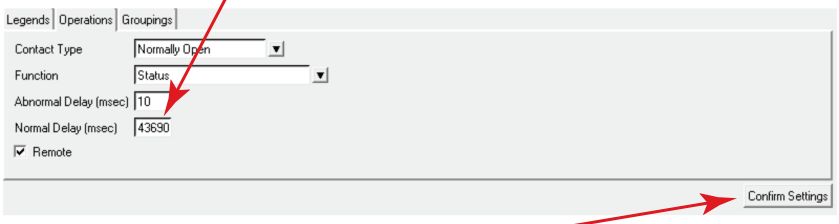
Note this setting

3. Force Change in Card Settings

This step will force the checksum in the card to change by modifying the 'Normal Delay'. New alarms will still be shown once the settings change has been made but the return to normal delay on the alarm state being removed will be either made much longer or much shorter dependent on the original setting noted in 2 above. This temporary setting will be corrected in the next process step.

Step 1a - Current Normal Delay Equal To or Less Than 32,767

For each channel where Normal Delay => 32,767
Set Normal Delay to 43690
(Can be set individually or all 16 channels on card at same time)

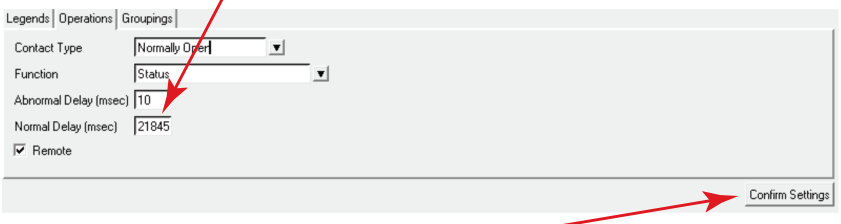


Once each Normal Delay set click on Confirm Settings

OR

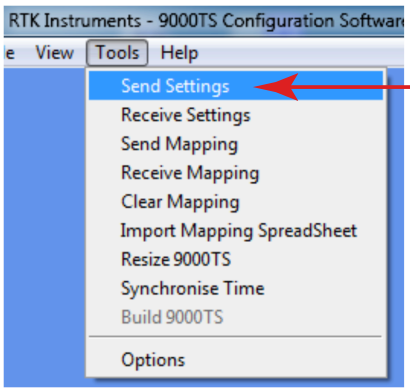
Step 1b - Current Normal Delay Equal To or Greater Than 32,768

For each channel where Normal Delay => 32,768
Set Normal Delay to 21845
(Can be set individually or all 16 channels on card at same time)

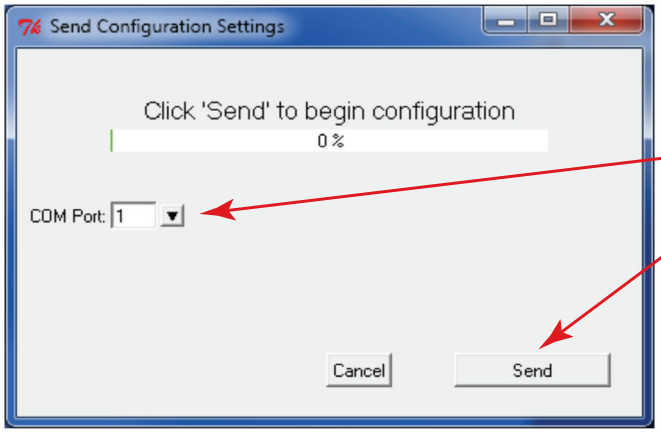


Once Normal Delay set click on Confirm Settings

Step 2 - Send Settings



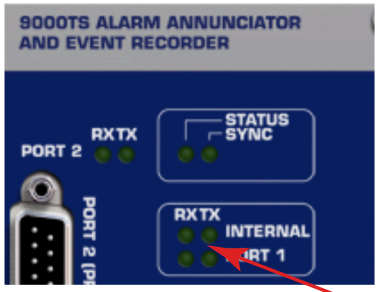
Click on Tools menu and select Send Settings



Select Port if not already set

Click on Send

Step 3 - Wait for Settings Change to Complete



When the 'Send Configuration Settings' form closes check the status on the front panel of the 9000TS.

Wait for INTERNAL RXTX LED's to return to flashing once per second.

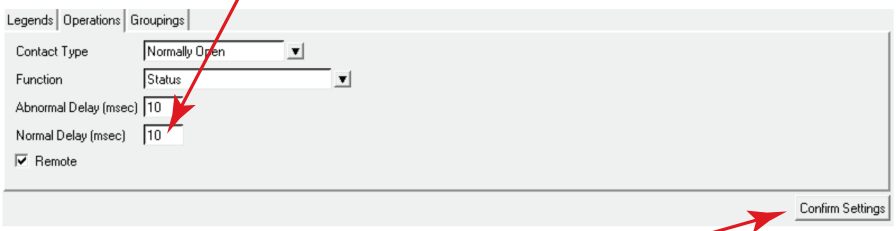
A one second flash rate is seen during normal operation. While the settings are being transferred internally to the 9000TS the LED's will flash at a much faster rate.

4. Restore Original Card Settings

This step will return the normal delay to the original setting noted in section 2 above.

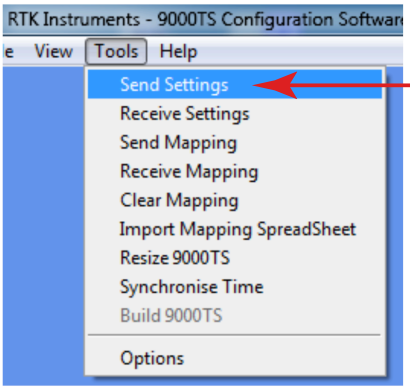
Step 1

For each channel set the Normal Delay to the original figure (Can be set individually or all 16 channels on card at same time if the same)

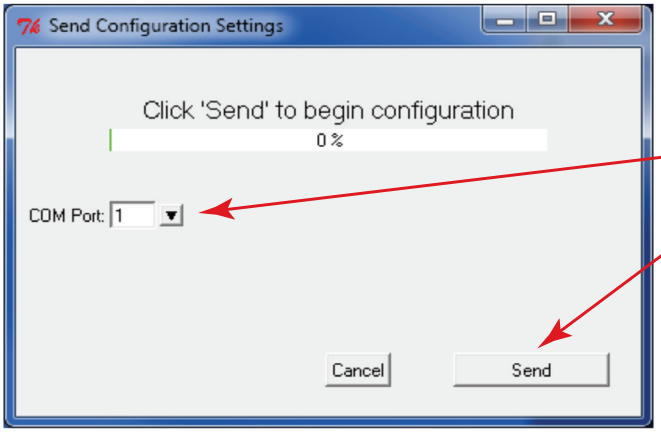


Once each Normal Delay set click on Confirm Settings

Step 2 - Send Settings



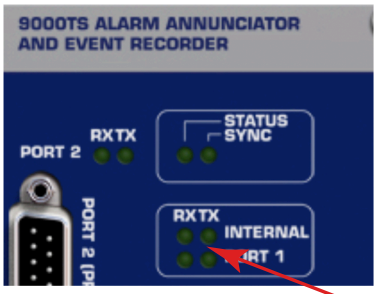
Click on Tools menu and select Send Settings



Select Port if not already set

Click on Send

Step 3 - Wait for Settings Change to Complete



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Wait for INTERNAL RXTX LED's to return to flashing once per second.

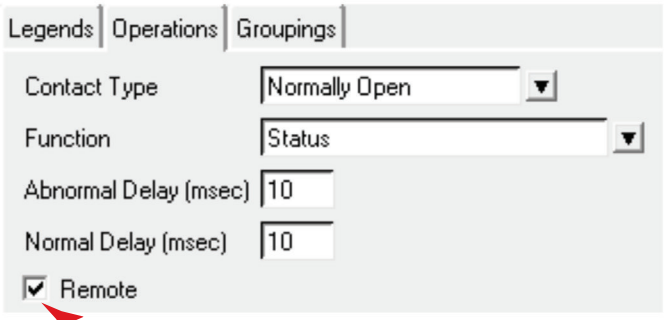
A one second flash rate is seen during normal operation. While the settings are being transferred internally to the 9000TS the LED's will flash at a much faster rate.

5. Extra Steps for Master in Master/Slave System

On any unit which is acting as the master in a system with a 9000TS or P725B slave and the input channels are being set remotely the following steps should be taken to ensure that the correct data is being seen.

This section only applies to the Master unit.

Step 1



If required confirm input(s) are set to remote by checking the tick box.

Do not change any setting.

Step 2

Confirm that all input channels that are set to Remote are operating correctly. I.E. that any channels in alarm are shown correctly on the Master unit.

If any channels are incorrect go to Step 3 below.

Step 3

Only carry out this step if any channels are identified as incorrect in step 2 above.

Pull out the replaced Input card.

Wait 10 seconds.

Replace the Input card in the system.

Repeat step 2 above.

The card should now pick up the alarm status correctly from the Slave unit.

6. Clearing Generated Alarms

Replacement of Input cards may in some circumstances trigger alarms on any associated Output card. In this instance Acknowledge and/or Reset the 9000TS unit using the remote pushbuttons where fitted.

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