

# TMO-100V3 DVI-100V3

## Programming of AIE keys



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# 1 Programming of AIE and Authentication keys

To use the TETRA authentication and Air Interface Encryption feature it is necessary that K-Keys and/or SCK keys can be programmed into the TMO-100 and K-Ref files are generated for the TETRA infrastructure.

This is a short overview how to use the Piciorgros Key Loader software to generate and load a K-Key into the TMO-100. For a detailed description of the Key Loader software please refer to the Keyloader software manual.

**The document and the screenshots are referring to the TMO-100V3, but the procedure for the DVI-100V3 is exactly the same.**

## 1.1 Preparing the TMO-100 for the key programming

The key programming is using a serial connection to the TMO-100. The AUX serial interface of the TMO-100 is used for this once the TMO-100 is set into key loader mode.

Therefore the PC which is running the Keyloader software must be connected to the serial AUX port of the TMO-100. The connection can be done via a native serial port of the PC or a USB-to-serial cable.

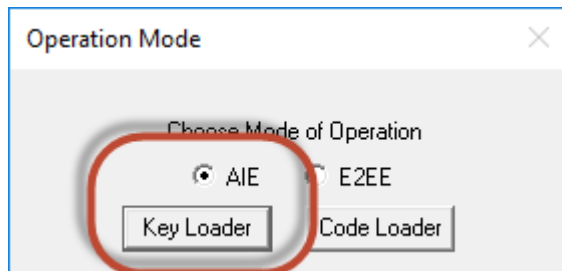
In the web server of the TMO-100, the button "Keyloader" on the page "Service" → "Restart/Keyloader" must be pressed:



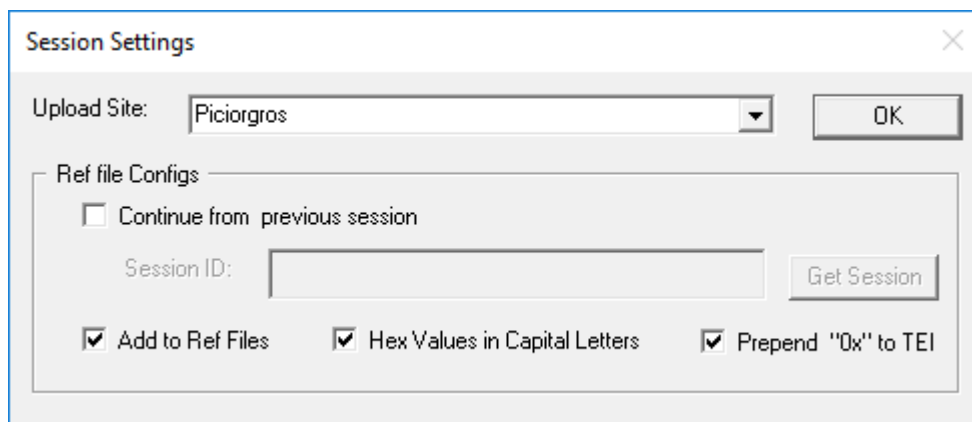
The TMO-100 now restarts and afterwards the RSSI-LED 6 (second LED from the right) flashes yellow. The TMO-100 is now ready for the key programming.

## 1.2 Connecting the Keyloader software

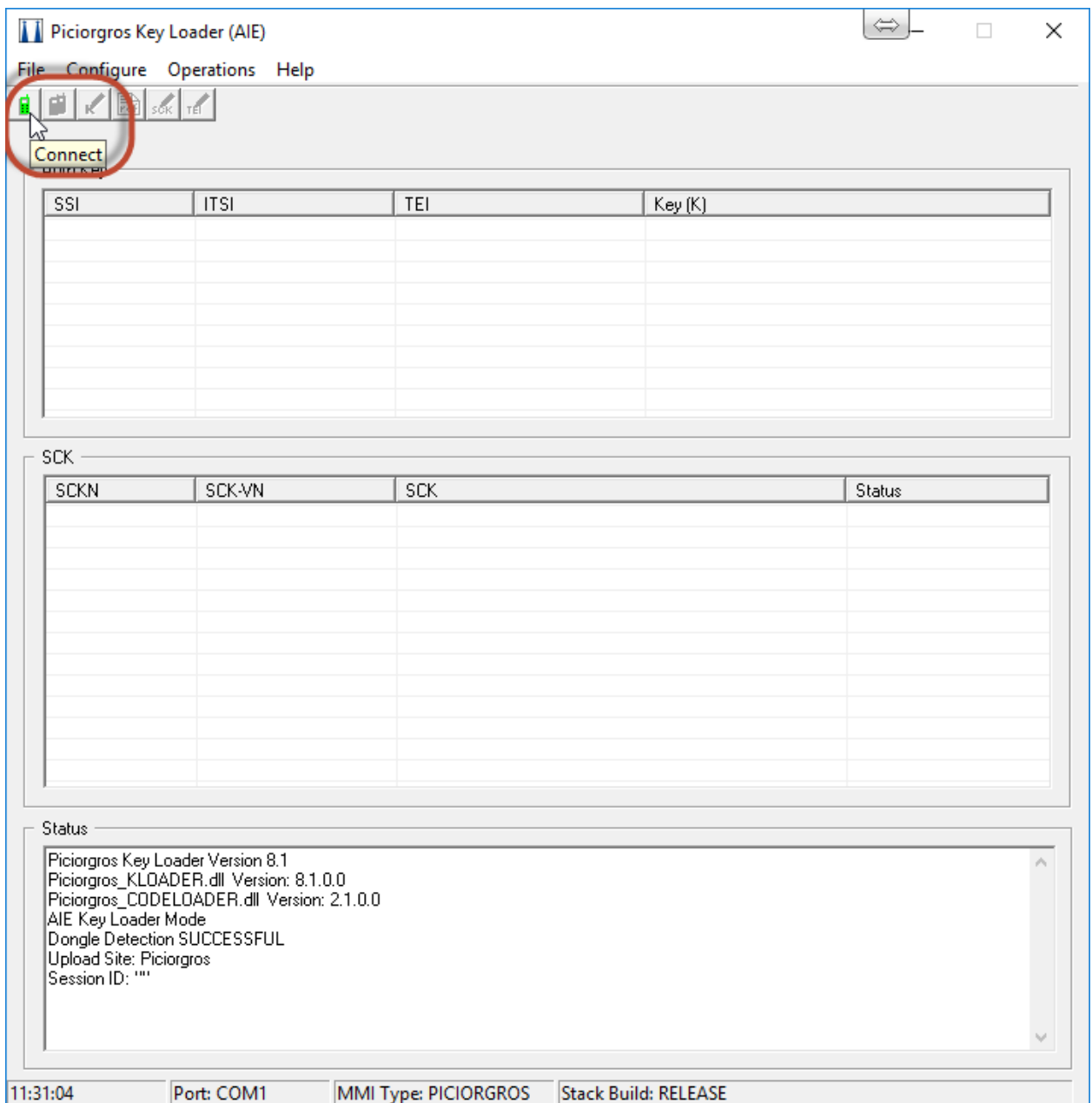
The Keyloader software must be started, the option "AIE" must be chosen and the "Key Loader" mode must be selected.



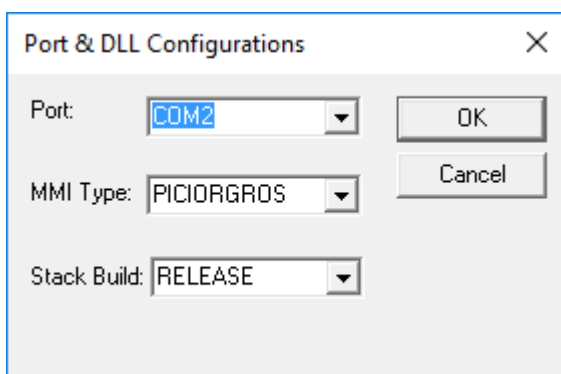
Select the following settings as shown in the picture below:



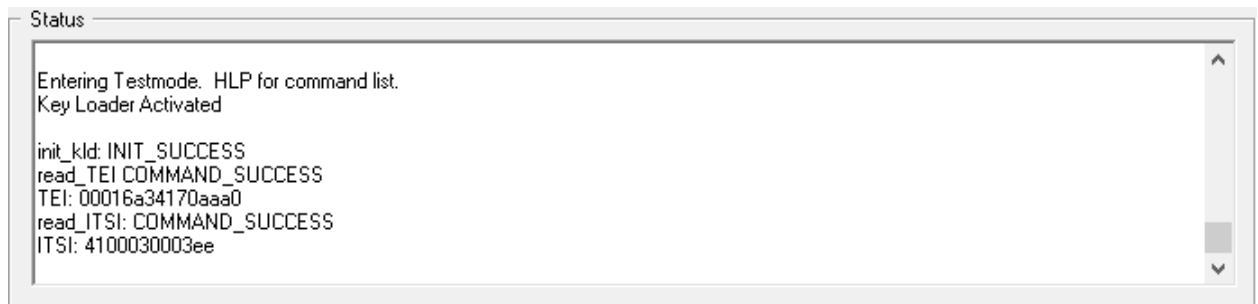
The Keyloader software is now ready to connect the the TMO-100:



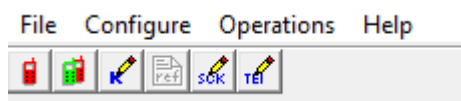
The COM port of the PC which is connected to the AUX port of the TMO-100 must be chosen:



Once the connection is established, this message appear in the status window:

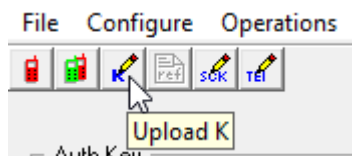


The generation and programming buttons will also become active:

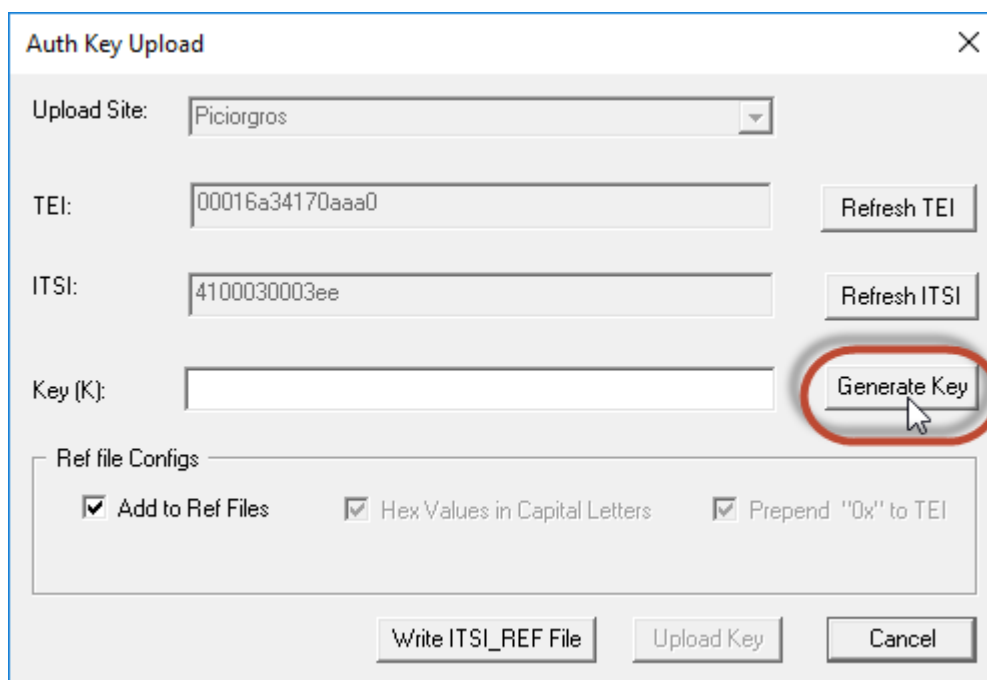


### 1.3 Generating and programming a K-Key

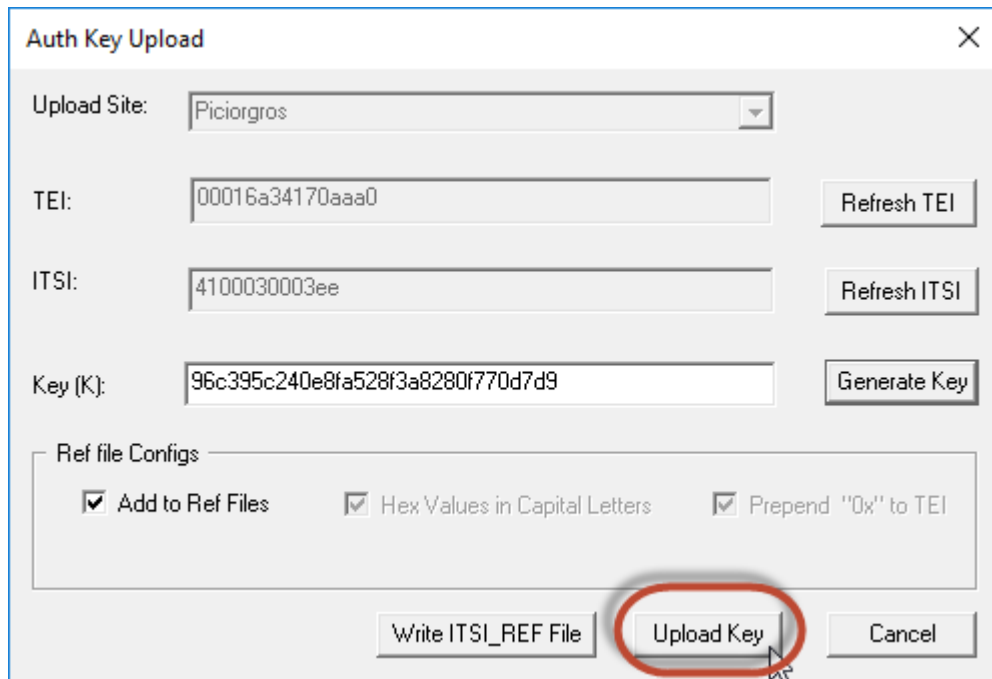
In connected state the "Upload K" button must be pressed:



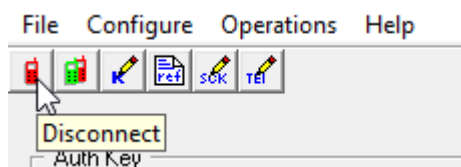
A new K-Key must be generated:



The generated key must be uploaded into the TMO-100:



The Keyloader can now be disconnected from the TMO-100:

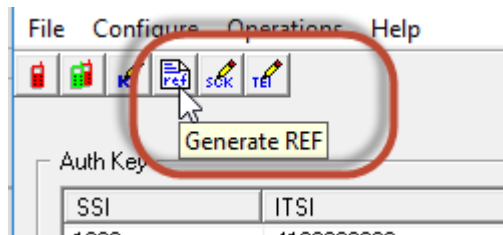


The TMO-100 must now be restarted to return to normal operation.

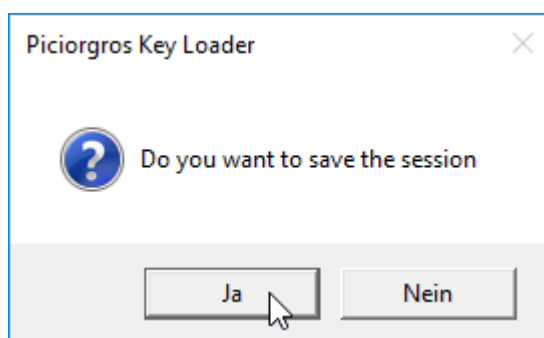
If more than one TMO-100 should be key programmed, other devices can be programmed without closing the Keyloader software. The next TMO-100 can be set into Keyloader mode and the Keyloader can be connected to it by the "Connect" icon, followed by generating and programming the K-Key. With this method only a single K-REF file is generated for a number of TMO-100.

## 1.4 Generating K-REF and ITSI-REFfiles

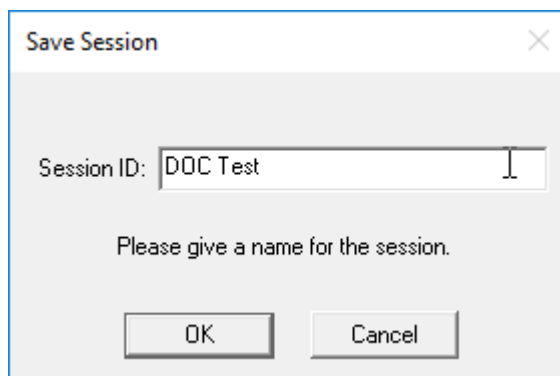
If all TMO-100 are programmed with K-Keys, the K-Ref file can be generated by the software:



Answer the next question with "Yes":

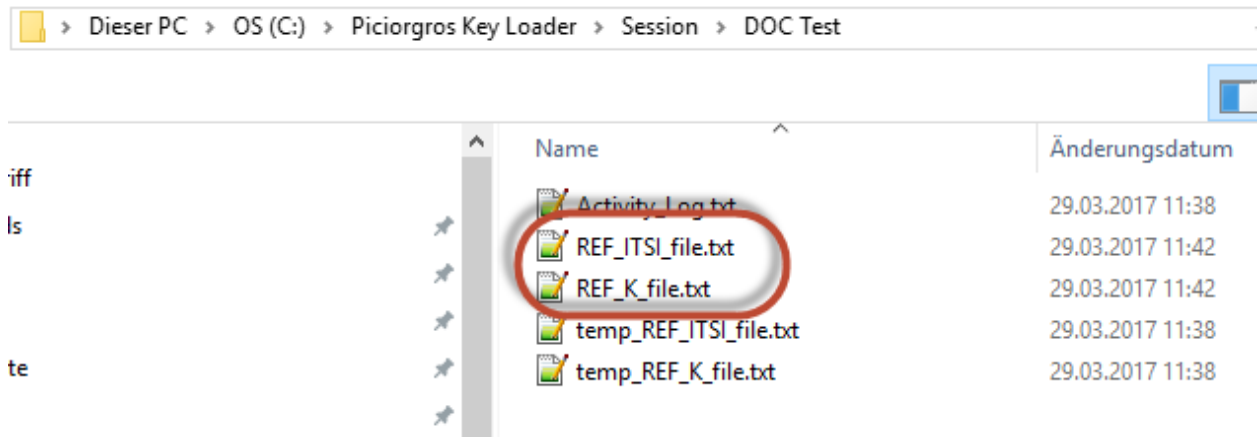


And give a name to the session:





The REF-Files are generated and can be found on the Hard Disk of the computer in  
C:\Piciorgros Key Loader\Session\Name



**Note:**

If the infrastructure also needs an ITSI-REF-file to be provided, the TETRA ISSI, MCC and MNC must be configured in the TMO-100 before the keys are programmed and the REF-files are generated!

If no ITSI-REF file is needed, the keys can be generated and programmed without the need of any TETRA configuration of the device.