TOMIX TNOS SYSTEM
Tomix TNOS SD Memory Card Notes
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TOMIX SD CARD PROPERTIES

Markings:
Front: TOMIX / TNOS / T-CU01 xxx / xxx / xxxxx xxxxx xxxxx
Back: "C E" logo / TPSG-004G-UM1I-EB (plus 2 lines lightly stamped on)
Capacity: 3.694 GB (nominal 4GB); 3,958,767,616 bytes per Windows File Explorer
Write Protection: Up (toward contacts) is unlocked (write-unprotected); down is locked (protected).
This card is apparently protected and, if damaged, must be replaced by Tomix/Tomytec.

TOMIX SD CARD FILE FOLDERS AND FILE TYPES

Folders:
- An update downloaded to a Windows computer is placed in a folder with a name like "TNOSデータファイル_202005".
- Within that folder is a single subfolder with a name like "TNOSâfü[â^âtâ@âCâï_202005".
- Within that are subfolders "L001", "L002" (etc., presumably for each track layout), "POINT", "SYSTEM", and "UPDATE".
- Within the "POINT" subfolder are only subfolders with names like "L002ùp", but not one for each layout number. Within these subfolders are one or more subfolders with varying name formats, all with ".tlf" filename extensions. Updates before 2020-03 do not have a "POINT" subfolder.
- My original SD Card had a "SYSTEM" subfolder, containing a "TNOS.tsb" file. Each Update has a "SYSTEM" subfolder, which is empty in each case.

Filename Extension Types:

.txt These are readable TNOS Command Language files. Following the 2019-02 Update, the "L001", "L002" and "L003" subfolders each contain one sample TCL file.

.tlf There is one of these files in each "Lxxx" subfolder, with "xxx" matching the Layout Number ("L001.tlf", etc.).
The "tlf" extension could stand for "TNOS Layout File".
The lowest subfolders in the "POINT" subfolder also each contain a single "tlf" file.

.ttf There are one or more of these files in each "Lxxx" subfolder. The filenames have the format "Txxxxxx.ttf" with the first "xxx" being the Layout Number and the last "xxx" being a sequential number, but generally not starting with "001" and generally not having all consecutive numbers. For example, the L002 subfolder contains T002011.ttf, then 12, 13, 21, 22, 23 and 24.

.tsb As mentioned above, my original SD Card had a "SYSTEM" subfolder, containing a "TNOS.tsb" file.

.tuf If an Update contains an update to the Version number, its "UPDATE" subfolder contains one or more ".tuf" files.
The "tuf" extension could stand for "TNOS Update File".
My original SD Card's "UPDATE" subfolder contained "cu001001.tub" and "nu001001.tub". The system was on Version 1.01
The 2019-02 Update contains "cu001003.tuf" and updates the system to Version 1.03
The 2019-12 Update contains "cu001004.tuf" and updates the system to Version 1.04
The 2020-03 Update did not update the version. The "UPDATE" subfolder is empty.
The 2020-05 Update contains "cu001003.tuf", "cu001004.tuf" and "cu001005.tuf" and updates the system to Version 1.05. From this, it appears that this update includes the V1.03 and Version 1.04 updates, and can update earlier versions to Version 1.05 in one single process, rather than stepwise.

TOMIX SD MEMORY CARD UPDATES
(excerpted and edited 2020-06-19 from Google-translated Tomytec webpage
https://www.tomytec.co.jp/tomix/necst/5701tnos/tnos-update.html)

List of Versions:

My SD Memory Card in the initial TNOS Basic Set release (November 2017)
- Contained Control Unit program Version 1.01 and apparently ND Hub program Version 1.01

(Unknown)
- Presumed update of Control Unit program to Version 1.02 (shown in Update 2019-02, Figure 1-1)

1st Update 2019-02 (released 2019.2.7)
- Added setting of Forwarding Mode
- Added TCL (TNOS Command Language) function
- Added Layout Plans 11 and 12, plus additional Automatic Operation sequences for existing Layout Plans
- Added Layout Plan storage function
- Updated Control Unit program to Version 1.03

2nd Update 2019-12 (released 2019.12.5)
- Added Control Unit brightness adjustment function
- Added Point throwing function and sensors for Forwarding Mode use
- Added Layout Plan 13
- Updated Control Unit program to Version 1.04

3rd Update 2020-03 (released 2020.3.5)
- Added Layout Plans 5 (Compact), 90 and 91, plus additional Automatic Operation sequences for existing Layout Plans

4th Update 2020-05 (releases 2020.4.30)
- Added Power Unit emulation mode
- Added Layout Plan 14, plus additional Automatic Operation sequences for existing Layout Plans
- Upgraded Control Unit program to Version 1.05

Google-Translated TOMIX Instructions on How to Update the SD Memory Card for TNOS

1. **For Windows PC (using an SD card reader)**
Download "TNOS Update Tool" and "TNOS Data File" to your PC, unzip each zip file and put it on your desktop etc. Start "Update Tool" and follow the instructions displayed to copy the contents of the "TNOS data file" to the TNOS dedicated memory card.

2. **For Mac PC (with SD card reader) and for those who cannot use "TNOS Update Tool"**
Please download "TNOS Data File" to your PC, unzip the zip file and put it on your desktop etc. Copy the contents of the "TNOS data file" to the TNOS dedicated memory card as described in "Manual memory card update method (PDF file)".

"How to Update Your TNOS Box" (English instructions on using the TNOS Update Tool) by "Yavianice" at https://jnsforum.com/community/topic/16598-tomix-tnos-layout-with-kato-unitrack-and-non-japanese-trains/

1. On the SD card, put the LOCK switch to the unlocked position, and then insert the TNOS card into your computer.
2. Make a backup of your SD card before doing anything.
3. You can go to this website to download the updates. Unzip each update into a folder. https://www.tomytec.co.jp/tomix/necst/5701tnos/tnos-update.html
4. On Windows, download the TNOS updater application.
5. Launch the TNOS updater application. If the TNOS SD card is recognized correctly, the button will turn blue. Select the folder of the unzipped update, and click OK.
6. Apply **each** update **in order** using the TNOS updater application. You need to eject the SD card after each update and reinsert it again and repeat the process.
7. After all updates are applied, eject the SD card and put the LOCK switch back.
8. Insert the SD card in your TNOS main box.
9. Disconnect **ALL** cables from the TNOS main box, only leaving the power cable.
10. Push the Settings/Cogwheel button at the **same time** as turning the TNOS box on.
11. It will now say CNFG on the display.
12. Push the Layout button on the left. It will now say the current software version of your TNOS box, e.g. **1.01**.
13. Using the dial button, move to the next version that is available, e.g. 1.03, 1.04. I recommend updating them sequentially.
14. Once you have selected the update number of your choice, push the Enter button.
15. The TNOS box will now update. A lot of numbers will appear, but eventually, your TNOS box will display the new version with a period behind it, e.g. **1.04**.
16. It is now safe to turn off the TNOS box, and turn it on again normally to start running your trains.

Possible errors while updating:

1. **E.60** means that the update did not execute correctly. Please repeat the process.
2. **E.61** means the update was not located on the SD card. Please verify that you updated the SD card correctly

DISCLAIMER: ALL instructions, information etc. is to be used at your own risk! I am not an expert in TNOS, and I am not a native Japanese speaker. I do not take any responsibility if your gear or trains get damaged due to improper use or misconfiguration that might lead from using any of the information in these posts!

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Disclaimer

I prepared these notes and comments as a TNOS set purchaser who does not read nor understand the Japanese language. A computer translation app was used to do basic translation, followed by further analysis and hands-on experimentation. I offer this information as a timesaver for others, since I already had to do the work for myself. I make no promises or claims as to the factual accuracy and completeness of these notes and comments, and anyone who uses them accepts and bears full responsibility and liability for any consequences or damage. These notes and comments were not prepared by Tomytec or Tomix. They are not a product of Tomytec or Tomix, and they are not to be construed to be a product of Tomytec or Tomix.