

TDT NeuroShare DLL Implementation Guide

TDT Data Format

TDT uses a different format for data storage and retrieval than other companies. Our setup is designed around a specialized database format that uses an API interface and SQL format for extracting data. TDT divides the data into four groups:

- 1) Data tank - a database that stores experimental data
- 2) Data block - all events that occur during an experimental trial
- 3) Event - any acquired signal, waveform or scalar event values
- 4) Epoch - an organizational tool for exporting, visualizing, and exploring event stores

Data Conversion

To accommodate the format of the Neuroshare dll, a TDT server interface is used to access the TDT data tank. So, in addition to the dll that converts TDT data to the Neuroshare format ('nsTDTLib.dll'), end users must also download the TDT tank server interface. These files are included in the TDTNeuroShareKit.zip downloadable file.

Software Requirements and Setup Instructions

- 1) Download and unzip the TDTNeuroshareKit.zip file from the TDT website.
- 2) Open TTankUpdate.exe to install the TTankEng server on your computer. This provides the interface to access TDT data tanks.
- 3) A TDT data tank must be registered before using. This requires that users have administrative privileges to access the Windows Registry. To register the data tank:
 - a) Open TankMon.exe (C:\TDT\OpenEx\TTank\TankMon.exe). Note in the server window that the server name is 'Local' by default.
 - b) Right click in the Tank window and choose the 'Add Tank' option from the display menu. This opens a select tank file dialog box so that the tank (.tbk file) can be added. The command 'Add Tank' adds the selected Tank to the windows registry. More information regarding tank registration can be found at http://www.tdt.com/WebHelp/OX_FlashHelp/openexHelp.htm -> TTank Reference.
 - c) Data tanks consist of four files with extensions '.tbk', '.tdx', '.tev' and '.tsq'. All tank files must have the same name (less extension) and reside in the same directory path.
- 4) Once the tank is registered, follow the steps for Neuroshare access.

Neuroshare access:

- 1) Note the name of the TDT Tank and Block where data is stored
- 2) Locate the 'nsTDTLib.dll' and 'test_input.stb' files included in the TDTNeuroshareKit.zip

To access a data set with the TDT server, users must do the following:

1. Open the 'test_input.stb' file with Notepad or another standard text editor. This file is used to set what section of the data block is accessed. The TDT tank server

uses this information to determine which DataTank and Block has the relevant data set. Specify the SERVER, TANK and BLOCK and save the file.

SERVER = Local

TANK = (name of the TDT Tank e.g.: DemoTank)

BLOCK = (name of the block where data is stored e.g.: Block-1)

2. In the source code, load TDT's 'nsTDTLib.dll' using the LoadDLL command. Then open the data file 'test_input.stb' using the ns_Openfile command. The user is encouraged to read the Neuroshare API documentation at <http://neuroshare.sourceforge.net/standards.shtml#API-Documentation> for more information about these Neuroshare functions.