LCTa User Guide

Lane-Change-Test Analysis according to ISO 26022, Annex E

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LCTa.exe supports the analysis of Lane-Change-Test (LCT) driving data according to ISO 26022. This includes calculation of the basic MDev, and the adaptive MDev (according to Annex E). This brief user guide describes the installation and provides an example for data analysis.

LCTa.exe: for 32 bit Windows operating systems (Windows XP)
LCTa64.exe: for 64 bit Windows operating systems (e.g. Windows 7 64-bit)

Important Note

The LCT software and this documentation were developed within ISO/TC22/SC13/WG8 by the Lane Change Test (LCT) Task Force members and their colleagues on a volunteer "best effort" basis. The intent was to implement the algorithms and computational procedures defined in ISO 26022 to the extent practicable, and for the benefit of interested users. However, ISO, the LCT Task Force, and its volunteer member participants do not warranty the software or its documentation in any manner, including accuracy of representation of the algorithms or completeness of the computational procedures. The computational procedures and data analysis methods provided in the Standard speak for themselves. If there is any question, a user of the Standard is free to independently implement those computational procedures and methods in any way that they see fit.

INSTALLATION

There is no installation required. Unzip LCTa_ISO26022.zip **with included folders** to a folder on your harddrive. Now you should have a folder with the **LCTa.exe** file and a subfolder "**Example Data**".

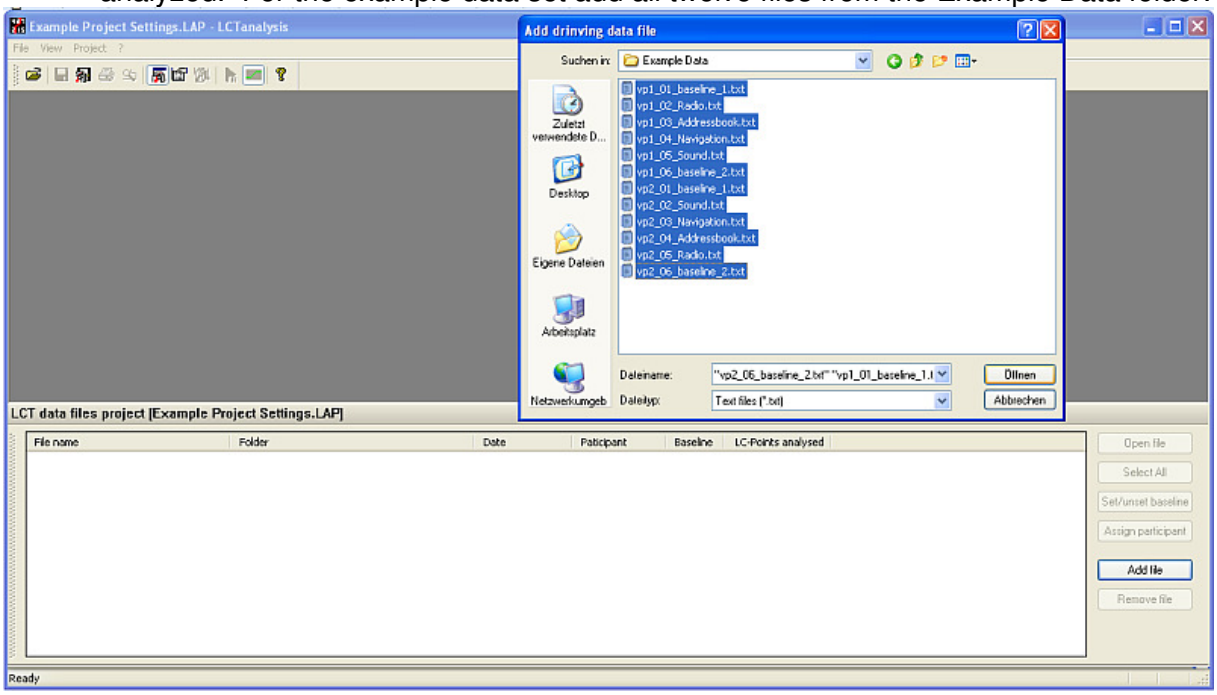
NOTE! LCTa registers and associates the LCTa project files (*.lap) automatically. If you use Windows Vista or Windows 7 you have to run the program once as administrator, and do the following: right mouse click on the program icon, and then choose "run as administrator".

This package also contains the files LCTStartPoints.txt and LCTSigns.txt. These files contain the Y-coordinates of the track start points and the signs and are the same files with the German names startpunkte.txt and schilder.txt. Make sure that the files are the same as those you are using with the LCT driving simulation. To do this, enter the corresponding file paths into the project settings.

DATA ANALYSIS

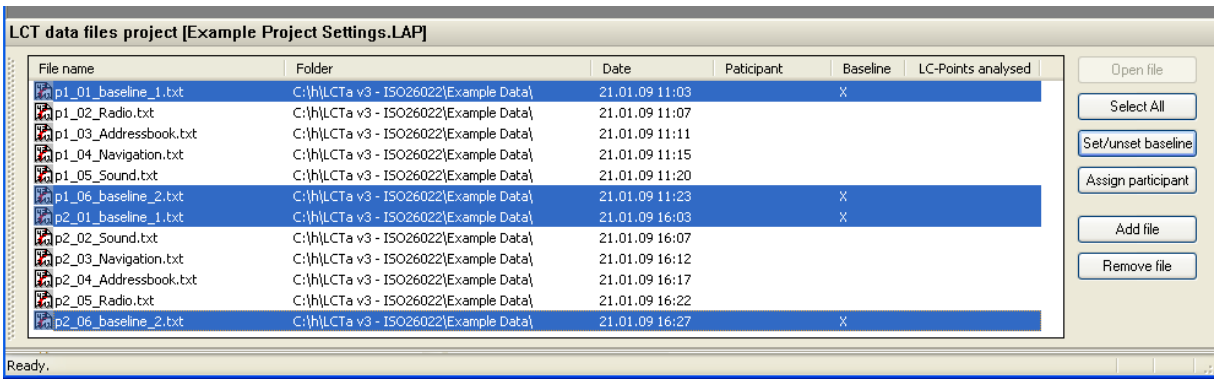
1. Run **LCTa.exe.** The window for the driving data files should automatically open at the bottom. If not, select **"View – Driving Data File"** in the menu.

2. **Select the "Add file" button on the bottom right**. Highlight those data files to be analyzed. For the example data set add all twelve files from the Example Data folder:

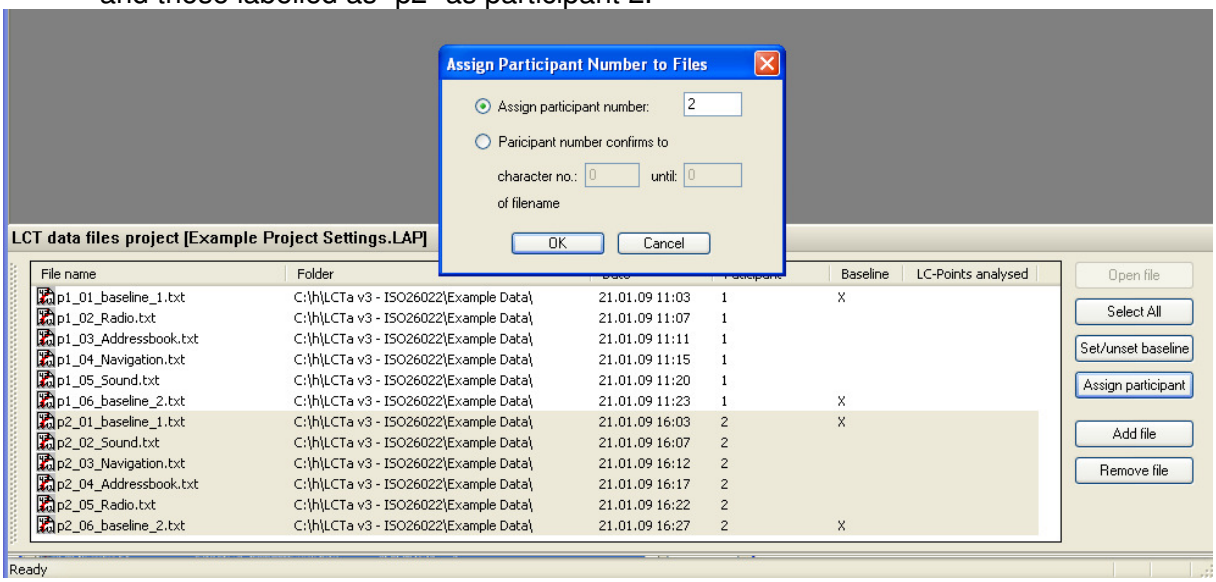


(Note: you can double-click on a file to see a graphic of the driving data)

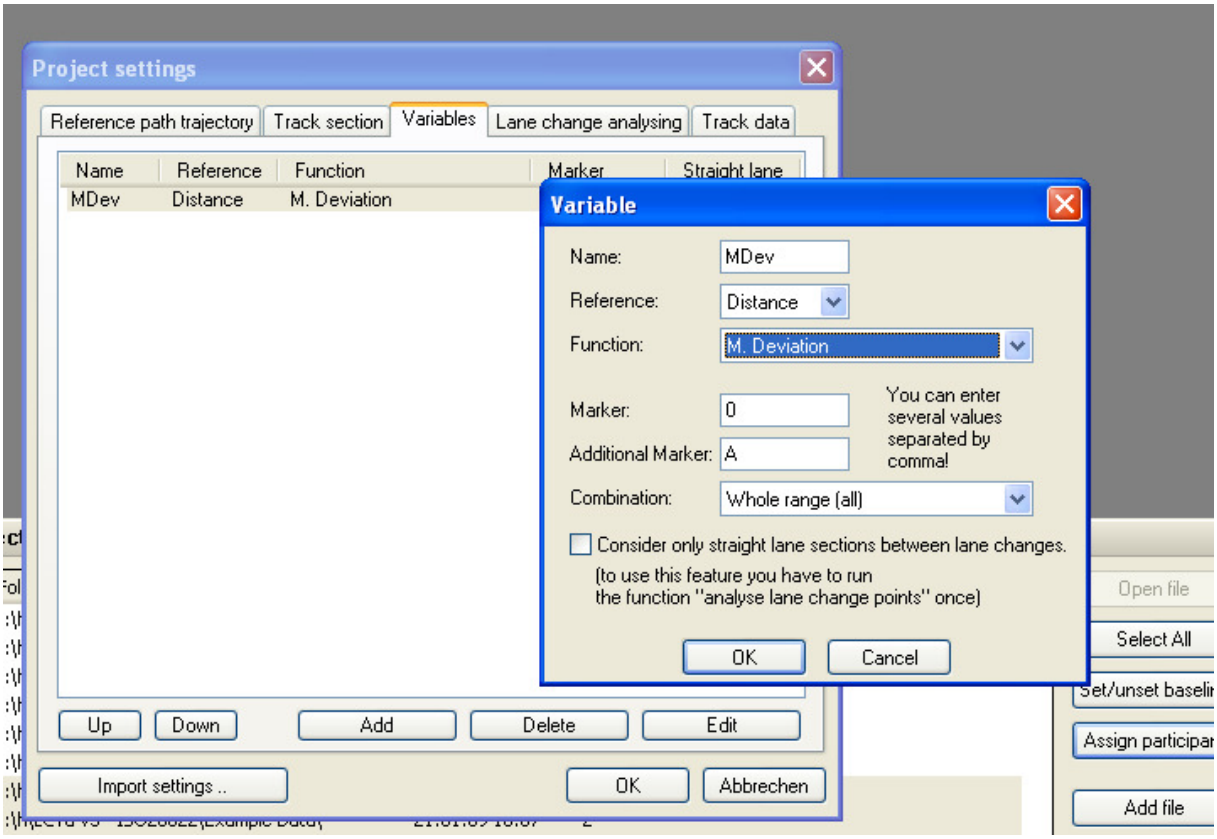
3. Select the baseline files (more than one file can be selected by holding Ctrl + left mouse button) and press "**Set/unset baseline**" button on the bottom right. Baseline files should now be marked with an X in the Baseline column. For the example data set there should be four baseline files.



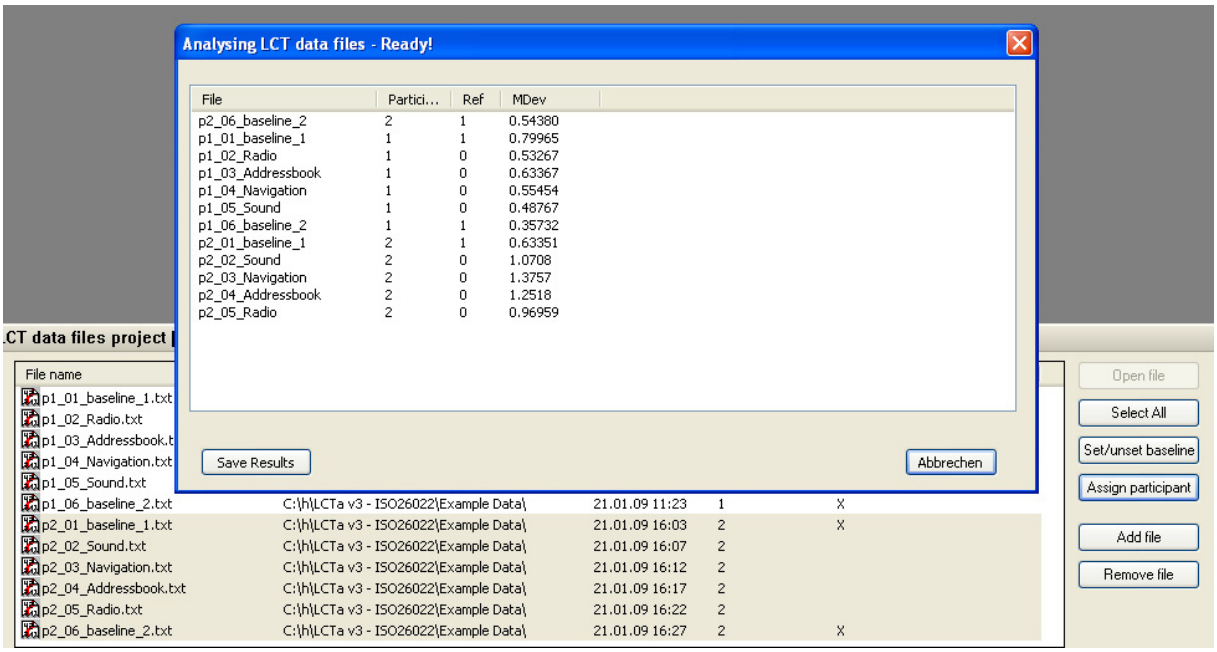
4. Select all files for the first participant. Press "**Assign participant**", assign a number. Alternatively, you can specify which characters in the filename contain the participant numbers. When done, make sure that each file has an associated participant number. For the example data set, select those files labelled, "p1" as participant 1 and those labelled as "p2" as participant 2.



5. Go to "**Project – Settings – Variable**". Chose "import settings" and use the settings from the file "Example Project Settings.LAP" For analysis other than MDev (ISO 26022, Annex E), press "Add" then select the desired options. For the example data set, the options would be: Name = MDev, Reference = Distance, Function = M. Deviation, Marker = 0, Combination = Whole Range (all).



6. Analyze the data by selecting **"Project – Analyze…".** Please wait until the MDev values are calculated. For the example data set, the results should look as in the figure:



7. Save your results..

For the example data set, results are:

File	Participant	Ref	MDev
p1_01_baseline_1	1	1	0.79965
p1_02_Radio	1	0	0.53267
p1_03_Addressbook	1	0	0.63367
p1_04_Navigation	1	0	0.55454
p1_05_Sound	1	0	0.48767
p1_06_baseline_2	1	1	0.35732
p2_01_baseline_1	2	1	0.63351
p2_02_Sound	2	0	1.0708
p2_03_Navigation	2	0	1.3757
p2_04_Addressbook	2	0	1.2518
p2_05_Radio	2	0	0.96959
p2_06_baseline_2	2	1	0.5438