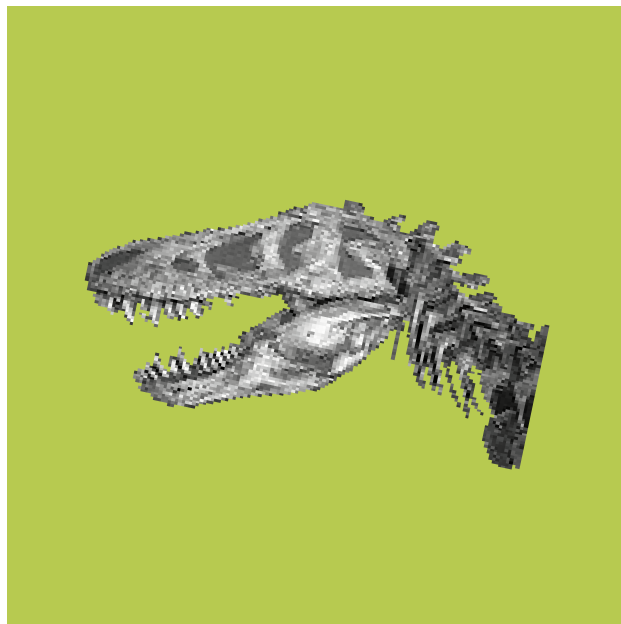


T-ReX

Televic **Recording** Matrix



User's Manual

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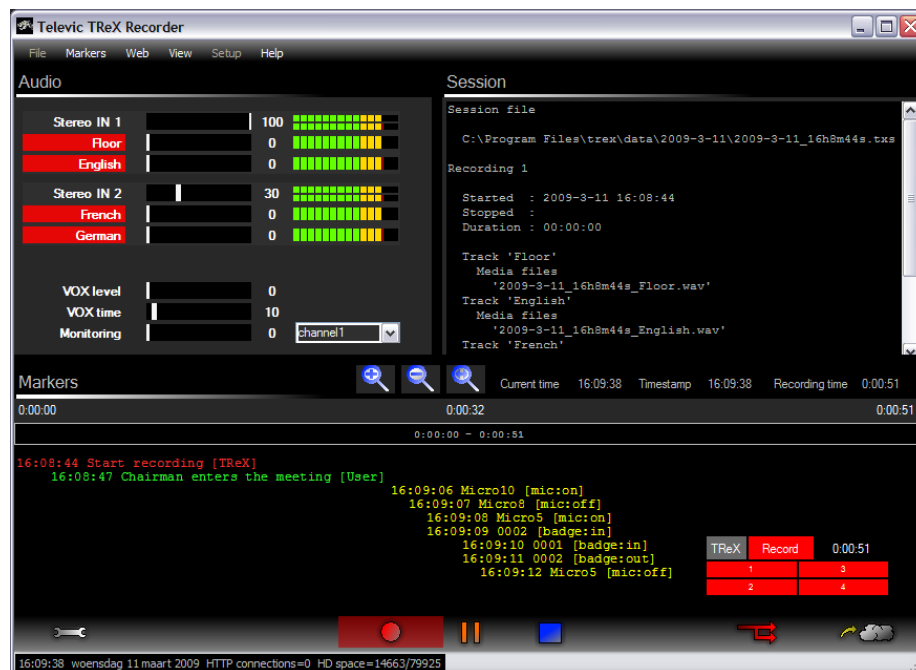
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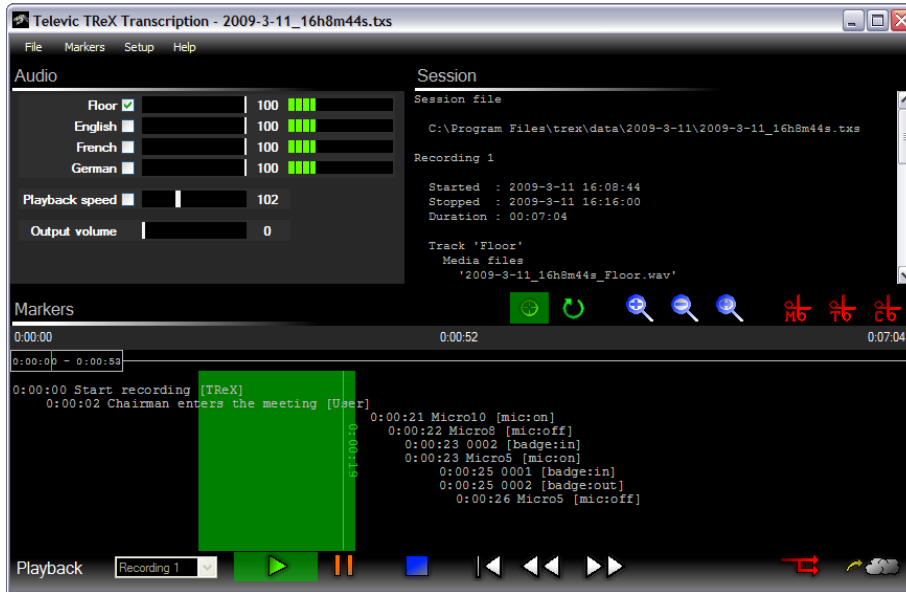
Section 1 – Overview

1. T-ReX

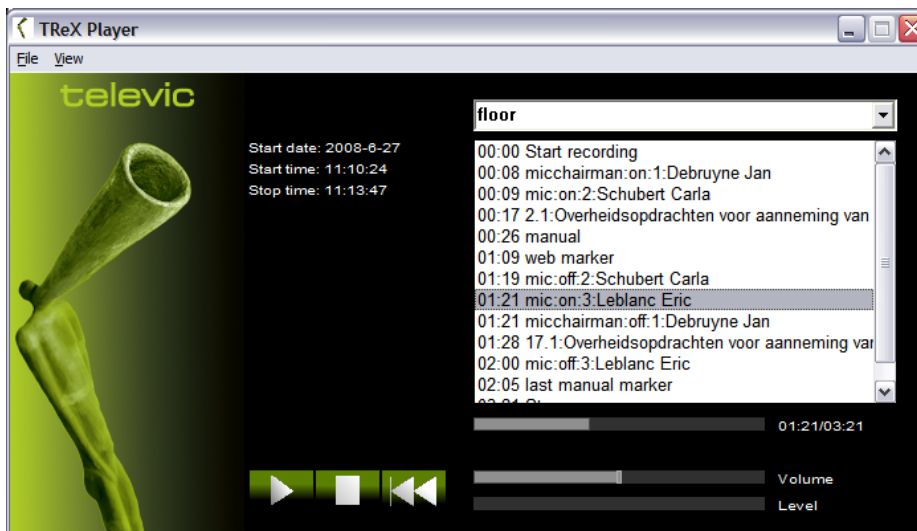
- The Televic Recording Matrix is a PC solution mainly targeted towards conference recording. The solution consists T-ReX Recorder
 - Multi channel audio recorder
 - Markers
 - Web interface



- T-ReX Transcription
 - Multi channel audio player
 - Markers
 - Installation & configuration



- T-ReX Player (freeware T-ReX session player)
 - 1 channel audio player
 - Markers
 - No installation & configuration needed



Advantages:

- Uses standard Microsoft Windows XP or Vista PC
- Easy installation
- Easy to manage data files
 - > audio files: MP3, WAV
 - > session data files: XML
- Linking with other systems

Multi channel audio recordings:

- Supports MS Direct Sound drivers.
- Supports ASIO drivers.
- The number of channels is only limited by the PC's performance.

Section 2 – Installation

2. How to install

Run the installer *trex-vX.YY-setup.exe*.

where X = major version number

and Y = minor version number

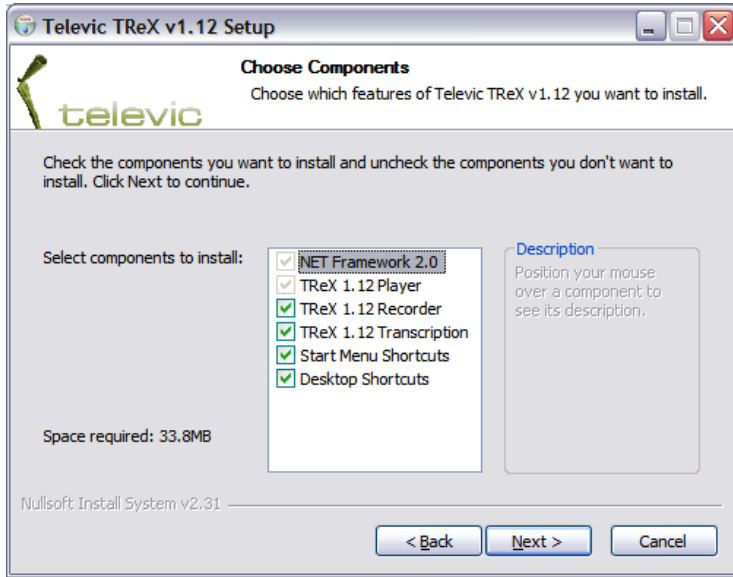
Follow the on the screen instructions.



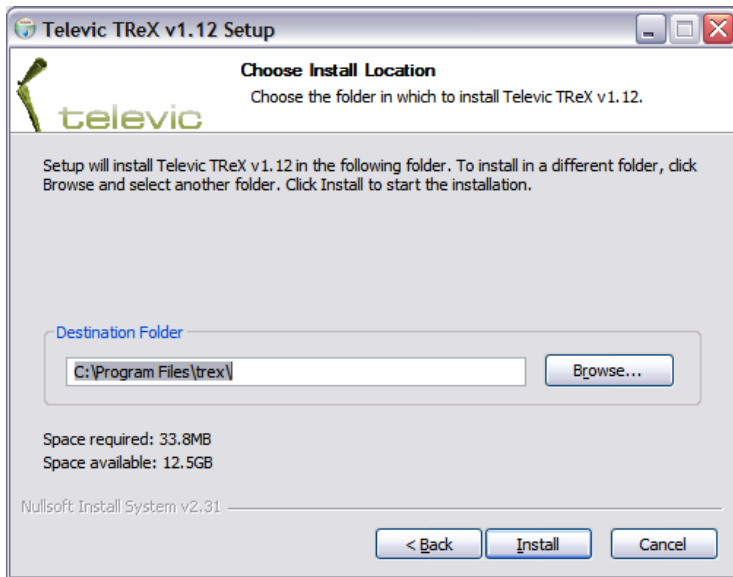
Accept the License Agreement.



Select the components that have to be installed.



Choose the install location.



The installer will also install the proper drivers for the dongle (USB license key). Please follow the on screen instructions.



The installation has completed.



3. T-ReX Licenses

3.1. Introduction

T-ReX licenses are setup according to the following functional decomposition:

Commercial article number	Discription
71.98.1004	T-ReX 2 channel audio recording, including USB audio interface
71.98.1006	T-ReX multichannel (8) audio recording, audio interface not included.
71.98.1002	T-ReX transcription module, including USB foot pedal

List of tested and supported audio interfaces for the 2 and multi channel recorder:

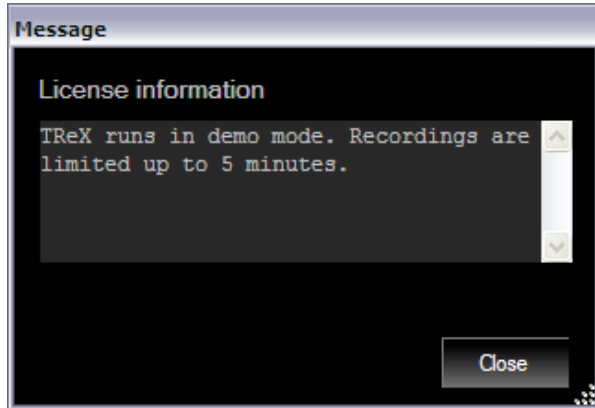
Channels	Interface	Breakout
20	RME Hammerfall HDSP9652	3 * Behringer ULTRAGAIN PRO-8 DIGITAL ADA8000
8	FireWire	M-Audio FireWire 1814
2	USB	M-Audio Fast Track PRO
2	USB	Hercules Muse Pocket LT 5.1

Without licenses, T-ReX Recorder and T-ReX Transcription will run full functional in demo mode for 5 minutes.

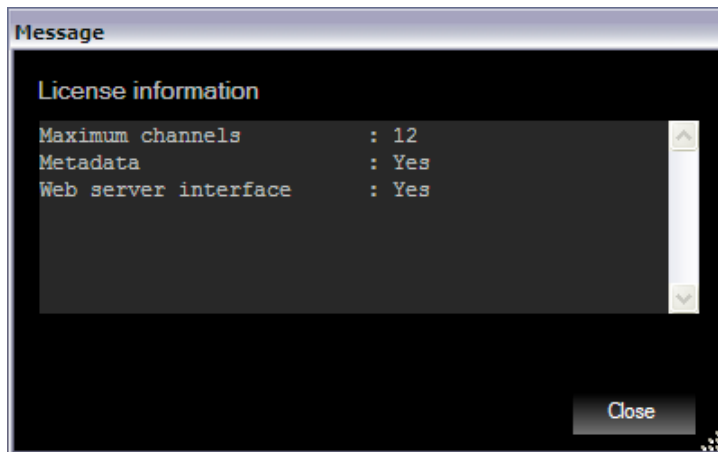
- **T-ReX recorder**
PC audio recording - 2 channels (incl USB audio card), no markers
- Additional license per **2 extra channels**
- Additional license for **marker support**
Module to link with and receive markers from Televic's conference systems TCS5500, Confidea CU and Confidea WCAP+
- **Remote supervision**
Web interface for remote control (5 persons).
- Additional license for **T-ReX Transcription**
- **T-ReX Player** is freeware.

3.2. License validation

T-ReX uses a dongle (USB key) to identify the licenses. If this dongle isn't plugged in, T-ReX Recorder and T-ReX Transcription will fire a warning at application startup.



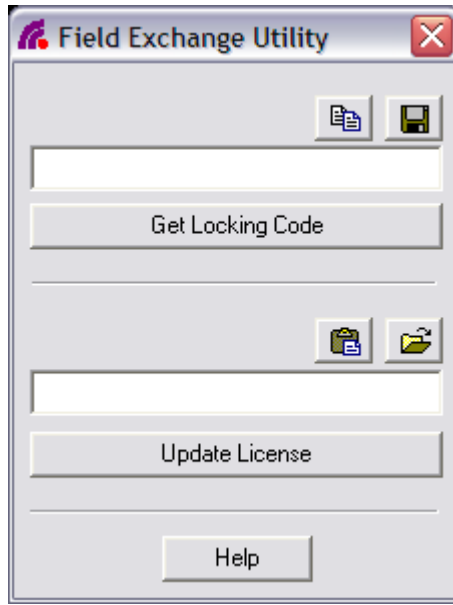
If a dongle is detected, the license information can be get from the T-ReX Recorder & Transcription help menu.



Alternatively, it is possible to use a software license key instead of a dongle. This can be accomplished by launching T-ReX Recorder or T-ReX Transcription without a dongle connected to the computer. You will be asked to select the license file (XML format) in a dialog box. Locate the license file that was provided by your software supplier and you will be able to run T-ReX without the use of a dongle.

3.3. License upgrade

License upgrading is possible with the *License Key Field Exchange Utility*.



Get the locking code by clicking the "Get locking code" button and send this code to Televic. Televic will provide you with a code that has to be put in the textbox above the "Update License" button. Click the "Update License" button to upgrade your licenses.

If you are using a software license key, you can upgrade your license by clicking Setup -> Browse License in T-ReX Recorder or T-ReX Transcription. A dialog box will be shown where you can locate your new license file provided by your software supplier. In order to activate this new license, you will need to restart the application.

Section 3 – Applications

4. T-ReX Recorder

4.1. Introduction

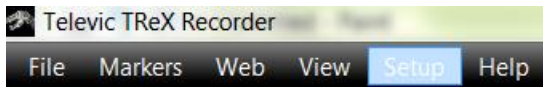


The *T-ReX recorder* provides a multi channel audio and marker recording application.

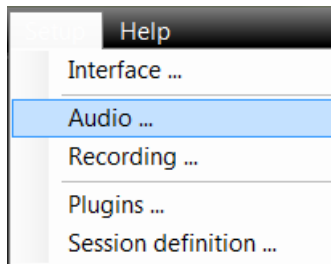
Main features of the T-ReX recorder:

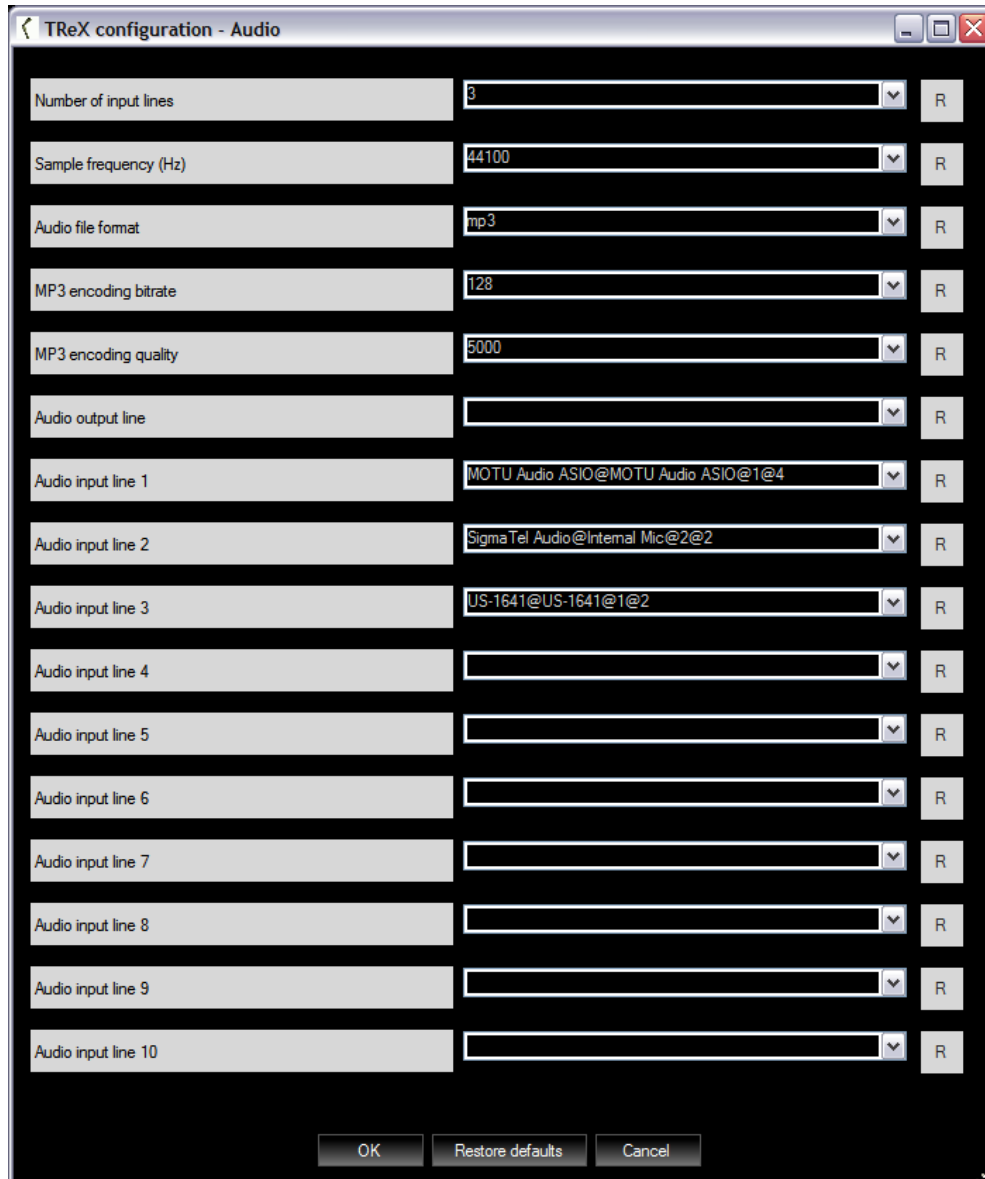
- Easy installation & configuration.
- Multi channel audio recording.
- Auto marker recording through communication with Televic TCS5500 and Confidea CU conference systems.
- VOX controlled (Voice Operated eXchange).
- Input sensitivity, limiter/compressor, level indication per channel.
- Channel monitoring.
- Manual marker adding.
- Marker editing.
- Session customization.
- Session export (file copy or FTP upload).
- Multi recording sessions.
- Web interface: remote control.

4.2. Setup



4.2.1. Audio





In the audio configuration window, audio settings can be configured:

- **Number of input lines**
The number of input lines that will be used by the recorder.
- **Sample frequency**
By default, the sample frequency is set to 16000, which is OK for speech.
Remark : always check device datasheets for compatible sample frequency
- **Audio format**
The format of the audio files to be recorded.
- **Audio output line**
This is the audio output on which monitoring will be available. In the recorder, one can select the input channel that has to be monitored. This monitoring channel be routed to the audio output line.

- **MP3 encoding bitrate and quality**
- **Audio input line 1 -> 10**

T-ReX Recorder lists up all of the available input lines. By selecting none (selection is empty), T-ReX Recorder will use the default input line.



Audio input line formatting

Audio input lines are formatted in a specific way, so the recorder knows how to find and initialize it.

Example: "SigmaTel Audio@Internal Mic@2@2"

An audio input line formatting consists of 4 parts, separated by the character '@':

- 1 The audio device name ("SigmaTel Audio" in the example)
- 2 The audio line name ("Internal Mic" in the example)
- 3 The audio interface type (1 for an ASIO device, 2 for a DirectSound device)
- 4 The number of channels provided by the audio device

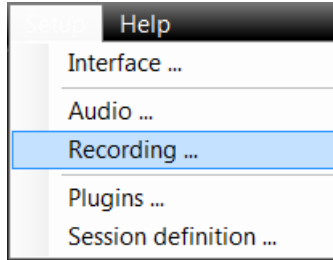
This formatting is created automatically by the recorder, so you don't need to create it manually. However, if you would like to reduce the number of channels, you do so by setting the last number in the formatting to the desired number of channels.

Example : Specific settings needed for Profire M-Audio 2626 multi channel sound card

Number of input lines	1
Sample frequency (Hz)	44100
Audio input line 1	M-Audio ProFire ASIO@M-Audio ProFire ASIO@1@26

Remark : Cyrillic (Russian) characters in audio device drivernames are not allowed , as this will result in errormessages at startup , so English audio device drivernames must be used !

4.2.2. Recording



In this window, the following recording parameters can be set:

- **Password for technical configuration**

This password is intended to protect users from unintentionally corrupting audio, recording, plugins and session configurations, rather than restrict users from changing the configurations. The password cannot be reset from within the T-ReX Recorder interface. It is saved into a configuration file, and can only be reset by deleting it from this configuration file. If you want to restrict users from deleting this password (and thus from changing the configuration), make sure the file is made un-accessible for that type of user account. When left empty, no password is used.

- **Password for manual export**

This password is used to protect the manual export functionality which exports recording files to a remote location. As with the previous password, it can only be reset by deleting it from the configuration file. When left empty, no password is used.

- **Show recording status panel**

Swich ON/OFF the displaying of the recording status panel

TReX	Record	0:00:04
1	3	5
2	4	6

- **Disable recording volume controls**

If enabled, the user won't be able to change the volume of the input channels.

- **Disable recording volume controls when recording**

If enabled, the user won't be able to change the volume of the input channels when a recording is ongoing.

- **Ask confirmation on pause recording**

This setting indicates whether or not the user should be asked for confirmation when the recording is paused.

- **Ask confirmation on stop recording**

This setting indicates whether or not the user should be asked for confirmation when the recording is stopped.

- **Ask confirmation on split recording**

This setting indicates whether or not the user should be asked for confirmation when the recording is splitted.

- **Data directory template**

The root directory in which the data files will be saved.

- **Marker filename template**

Template for the session file names.

- **Channel filename template**

Template for the audio file names. Do not specify an extension. The extension is added automatically, and depends on the selected audio format.

- **Show session wizard**

If enabled, the session wizard will be fired when the user clicks on File -> New session.

- **Show session wizard on startup**

If enabled, the session wizard will be fired when T-ReX Recorder is launched.

- **Create a new session for each recording**

If selected, T-ReX Recorder will create a new session whenever recording is started.

If not selected, T-ReX Recorder will create a new recording within the current session.

- **Marker subtract time**

T-ReX Recorder will subtract this amount of time from a manually added marker's timestamp. This to avoid that markers are set after an event occurred.

For instance: if an operator would like to mark the event of a person who starts speaking, the person already has started speaking before the operator was able to put the marker. If afterwards, one would like to listen to the person by jumping to the marker, the first part would be missing.
- **Maximum recording time**

When set to a value different from 0, all recordings will be stopped automatically when the recording time equals this amount of minutes. Set to 0 if recording may not be stopped automatically.
- **Let VOX pause recordings**

When **Let VOX pause recordings** is enabled, the VOX on **channel 1** will pause the recording whenever the signal level on channel 1 drops below the **VOX level threshold** for the period of time **VOX pause time threshold**. It will restart recording whenever it detects a signal again.
- **Let VOX split recordings**

When enabled, the VOX on **channel 1** will split the recording whenever the signal level on channel 1 drops below the **VOX level threshold** for the period of time **VOX pause time threshold + VOX split time threshold**.
- **Hide VOX panel when not enabled**

When enabled, the VOX panel will be hidden if none of the above 2 settings is enabled.
- **Preferred export method**

Default method that will be used to export data files.
- **Export directory template**

Default directory that will be used to copy the data files to.
- **Export FTP server IP address, port, user and password**

The settings of the FTP server. When exporting data files over FTP, T-ReX Recorder will use these settings to connect to the given FTP server.
- **Allow export destination selection**

When enabled, the user can change the default export destination (directory or FTP server) right before starting the export.
- **Run as HTTP server & HTTP server port**

When configured, T-ReX Recorder can be controlled remotely from a webbrowser.
- **Webbrowser**

The default webbrowser that will be opened when clicking the "Open in webbrowser" menu item.
- **Room Name**

This setting represents the name of the room in which the conference is held.
- **Directory central setting files**

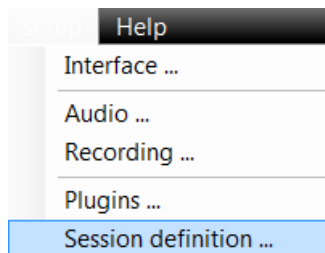
Specify the location where the central setting files should be stored. These files can be used by multiple T-ReX applications to share settings. If left blank, no files will be shared.

When T-ReX launches, it tries to copy the central setting files to its own local installation folder. These settings are then used during the application run. When the application shuts down, it pushes its settings to the central location, so that other application can use these too.
- **Alert message central setting files**

This message will pop up after the application is launched when the central setting files are not found at the specified location.

- **Show mic on event**
If not enabled, events that are triggered when a microphone is switched on will not be added to the marker list.
- **Show mic off event**
If not enabled, events that are triggered when a microphone is switched off will not be added to the marker list.
- **Overlap when splitting**
Specify the overlap (in seconds) that will be used when splitting a recording.

4.2.3. Session definition



The following parameters of a session can be configured:

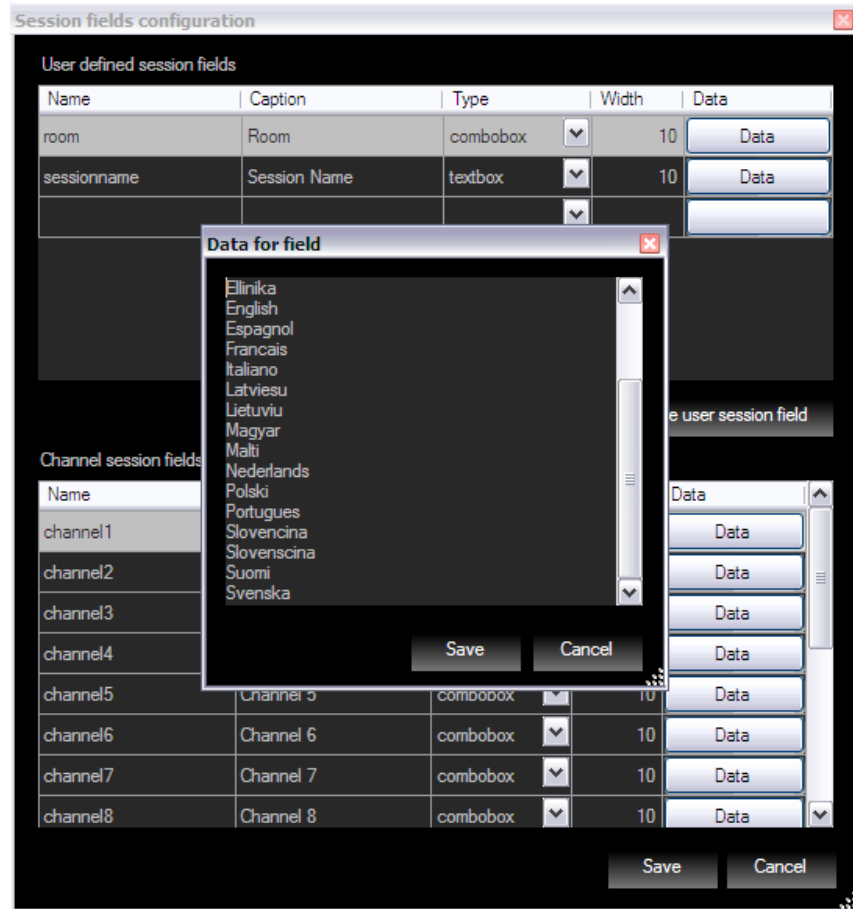
- Channels to be recorded
- User fields

For each and every session, the settings can be changed, for instance when the number of channels changes, or when the recording is done in another room, ...

4.2.4. Session configuration customization

A session's configuration can be customized:

- **User friendly channel names**
Give meaningful names to the channels, for instance channel 1 is "English", channel 2 is "French".
- **User defined fields**
Add fields to a session so as to add valuable information to the sessions. You could for instance add the user field "room". This user field then can be filled in according to the room the recording was done in.
- **File names formatting**
The audio and session files are stored in a directory structure. Both the directories and file names can be formatted. So it is possible to arrange them by date, channel, time, ...



In this window, the following session configuration parameters can be set:

- ***User defined session fields***

User defined session fields are used to add valuable information to a session. A user field is a type of information that can be set for each and every session. For instance, the room in which the recording was done, the operator who has done the recording, the name of the session, ...

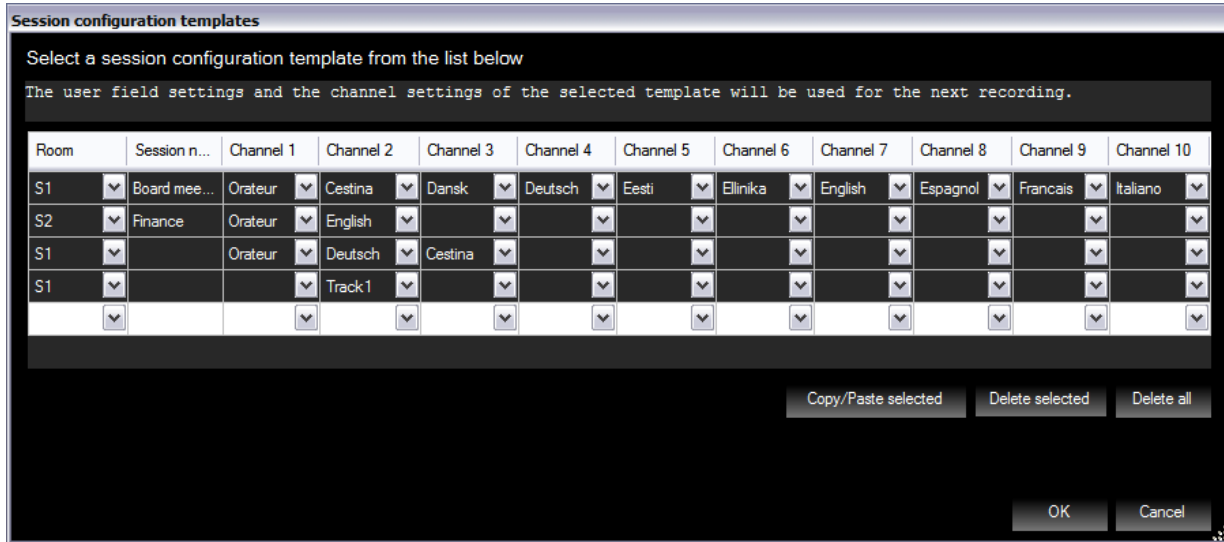
The type of the user fields indicates how the user field can be set by the user who is configuring the session. If the type of a user field is a textbox, the user will be able to fill in the textbox with any information. If the type of the user field is a combobox, the user will be presented with a drop down box, from which he can select one of the entries. If the type of the user friendly field is a checkbox, the user will be presented with a checkbox.

- ***Channel configuration***

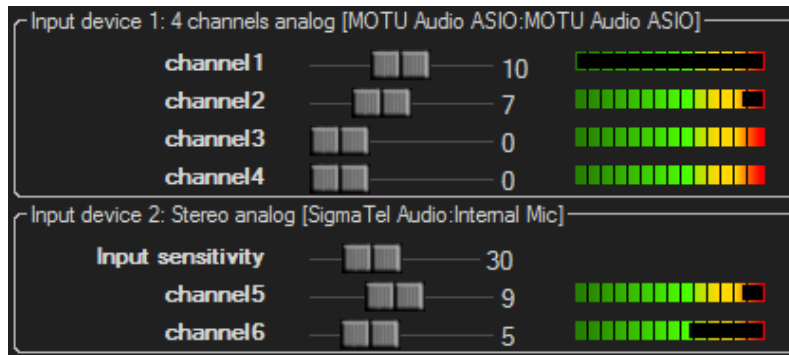
For each and every channel, a number of user friendly names can be listed up. The user who is configuring the session will be presented with this list, so he can select one of the user friendly names.

4.2.1. Session templates

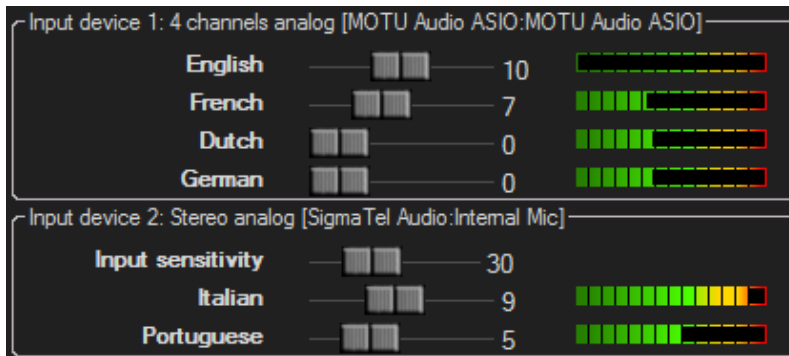
In order to avoid having to change a session's parameters each and every time, **session templates** can be used. A session template is a preset of a session configuration. Once you've set up a list with session templates, new sessions can be automatically configured using these templates.



Example of channels without user friendly names:



Example of channels with the use of user friendly names:

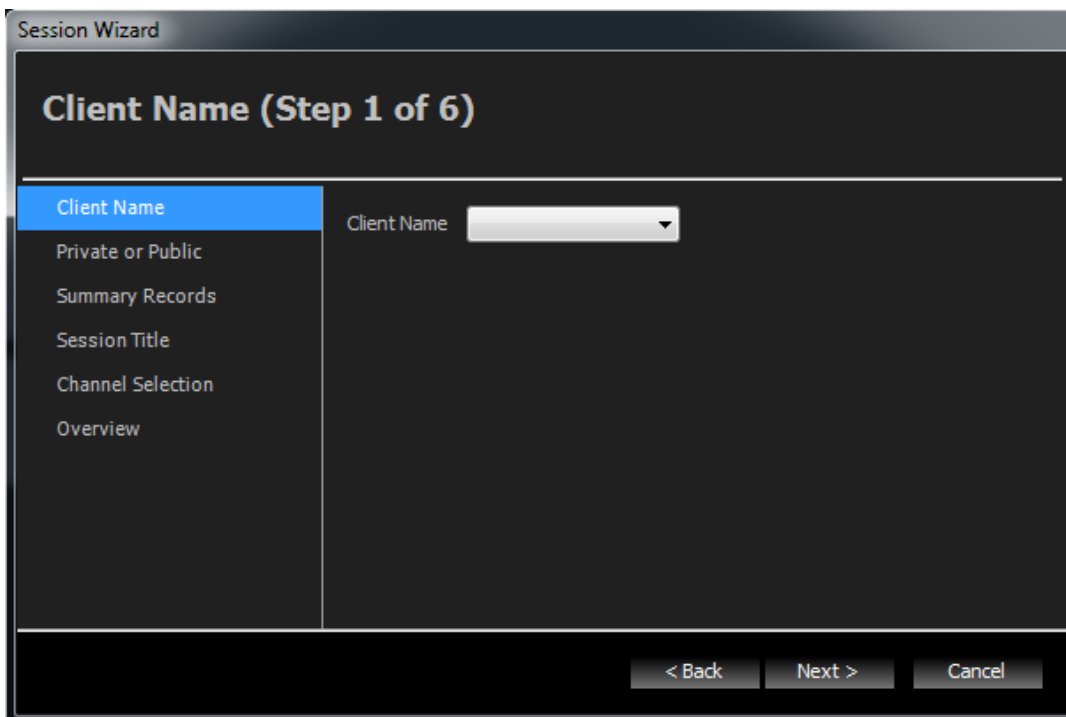


4.2.2. Session Wizard

The session wizard is a user friendly way of configuring a new session. It is a step-by-step representation of the session definition which can be configured in the T-ReX Recorder.

The wizard contains 4 parts:

- An introduction page.
- A page for each session field.
- A page that includes all the recording channels.
- An overview that shows the chosen values.



In order for the wizard to pop up, it must be enabled in the recording options window. There are two options for showing the session wizard:

- Show session wizard: this will fire the session wizard when the user clicks on File -> New session.
- Show session wizard on startup: this will fire the session wizard when T-ReX Recorder is launched.

While T-ReX isn't shut down or the session definition isn't changed, the selected values will be remembered and automatically filled in when the session wizard is launched again. This way, minor adaptations can be made very easily without having to configure an entire session.

4.3. Software plugins

The T-ReX recorder comes with a number of software plugins, which make it possible to capture events (microphone ON/OFF, badge IN/OUT, agenda items, ..) from Televic's conference systems TCS5500 and Confidea CU. Communication with these systems can be configured from within the T-ReX interface. On top of that, T-ReX Recorder can be fine-tuned to meet a customer's specific project needs. For instance, T-ReX recorder can be configured to start recording whenever a certain microphone was switched ON.

4.4. Recording control

4.4.1. Start / pause / stop

A recording can be started, paused or stopped manually.



The colors of the channels indicate the recording state of the channels.

When no recording is ongoing, the channels have no color.



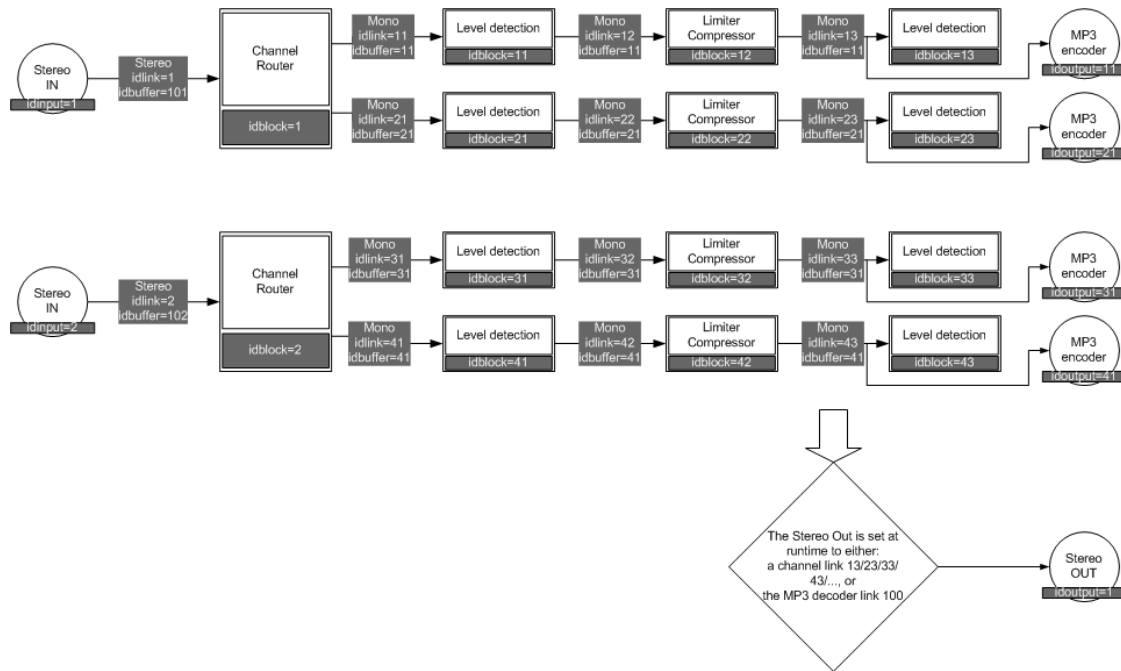
When a recording is started, the channels which are recorded are colored red.



When a recording is paused, the channels which are paused are colored orange.

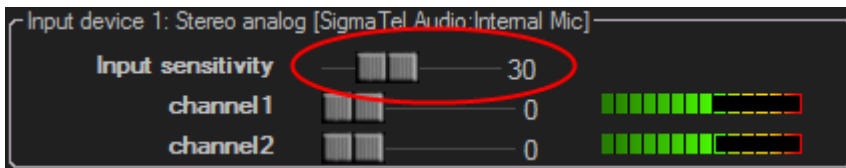


4.4.2. Inputs devices, channels, analog output



The T-ReX recorder uses **input devices**, known by the PC.

- All input device's **channels** are listed up. For DirectSound devices, the sensitivity of the input can be set.



- Each channel goes through a limiter/compressor. The setting can be changed with the slider bars. When set to 0, no limiting/compressing is applied. This is the default value. It is advised not to change this setting unless the input signal level is very low.



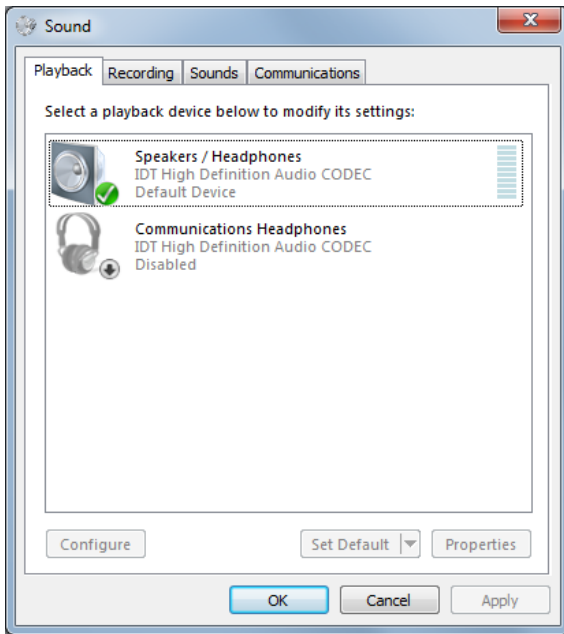
- Each channel goes through a level detection block. These levels are indicated in the interface.



The T-ReX recorder uses an **analog output** of the PC. Each channel can be routed to this monitoring. The volume setting of this output can be changed:



The analog output can also be used to pre-listen to the actual files that are being recorded. The **default playback device** of your computer will be used as output device, so make sure that you select the preferred device in Windows Control Panel before recording.



4.5. VOX

4.5.1. Introduction

The T-ReX recorder supports VOX controlled recording. VOX stands for **Voice Operated eXchange**. The VOX in the T-ReX recorder detects whether there's an audio signal on a channel or not. The recorder can be configured to let the VOX pause/restart and even to split an ongoing recording. This comes in very handy when you want to filter out

silences (no audio signal), and as such avoid irrelevant recordings, and eventually reduce the size of the eventual recordings.

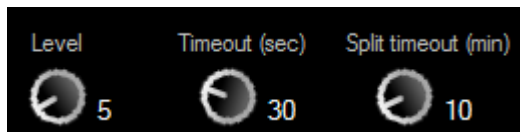


Pause / restart recording by the VOX

The VOX can only pause/restart an ongoing recording. If there's no recording ongoing, the VOX will not start recording automatically.

4.5.2. VOX parameters

The VOX can be parameterized as following:



- **VOX level**
The VOX will report "audio signal" on the channel if the audio signal on the channel is above this value. If the audio level on the channel drops below this level, the VOX will report "no audio signal" on the channel.
- **VOX timeout (in seconds)**
If the VOX detects no signal for as long as this period of time, the recording will be paused (if the VOX is configured to control pause/restart recording). Only the VOX on channel 1 will pause/restart the recording on all of the channels.
- **VOX split timeout (in minutes)**
If the VOX detects no signal for as long as this period of time on channel 1, the recording will be split.



Enable / disable the VOX

If the VOX level is set to 0, the VOX is disabled. For each and every other value, the VOX is enabled.

4.5.3. Colors in the interface

For each and every channel, the VOX indicates -by means of a color on the channel's level value of the channel- whether there is an audio signal detected on the channel or not. If the VOX is disabled, there's no color indication.

- No color on the channel's level value: VOX is disabled or a signal was detected on this channel
- Channel's level value is orange: no audio signal was detected on this channel

The following table with a number of examples shows how colors are used in the interface.

Interface	Is recording	Audio detected	VOX pauses recording
-----------	--------------	----------------	----------------------

	Cnl 1	Cnl 2		
	No	Yes	Yes	No (isn't recording)
	No	No	Yes	No (isn't recording)
	Yes	Yes	Yes	No, because signal was detected on channel 1
	Yes	No	Yes	No, because VOX is not allowed to pause
	Yes	No	Yes	Yes, because VOX is allowed to pause and no signal was detected on channel 1.

4.6. Configuration

The T-ReX Recorder can be configured according to a customer's needs.

4.6.1. Interface



In this window, the following interface parameters can be set:

- ***Password for interface configuration***
This password is intended to protect users from unintentionally corrupting a configuration, rather than restrict users from changing the configuration. The password cannot be reset from within the T-ReX Recorder interface. It is saved into a configuration file, and can only be reset by deleting it from this configuration file. If you want to restrict users from deleting this password (and thus from changing the configuration), make sure the file is made un-accessible for that type of user account. When left empty, no password is used.
- ***The colors of the interface*** can be adapted to your personal preferences.

5. Markers

5.1. Introduction

A marker is an event that occurs at a certain point in time during a meeting and that is kept track of. A marker has a type, name, timestamp, ...

Typical examples of markers are

- A microphone which is switched ON/OFF
- An agenda which is opened/closed
- Voting which is started/stopped
- Recording has started
- ...

Markers are tracked events that are of interest for anyone who is listening to the recordings afterwards. Markers are very useful when searching for a particular part in a recording. If markers are automatically set by Televic's conference systems TCS5500 and Confidea CU and delegate databases are used, markers show who is talking at what point in time during the conference.

```
9:46:46 Chairmencending the meeting
9:46:55 Talloen Patrick
9:47:01 Vandewalle Dimitri
9:47:11 agenda:'trex'
9:47:16 0001.0001:tst1
9:47:20 voting:start
9:47:25 2
9:47:29 Pause
9:47:34 Restart recording
9:47:46 Talloen Patrick
```

Marker types:

- **Manual marker**
Markers, manually entered by operator.
- **T-ReX marker**
T-ReX creates markers when recording is started, stopped or paused.
- **Auto marker**
Events reported by other systems, typical conference systems.
- **Web marker**
T-ReX recorder can run a built-in HTTP server. Markers can be set over the HTTP protocol.
- **TCCP marker**
Events notified over the TCCP interface (TCCP = Televic Common Communication Protocol).

Markers have two different timestamps:

- **Actual time**
This is the current time when the marker was set.

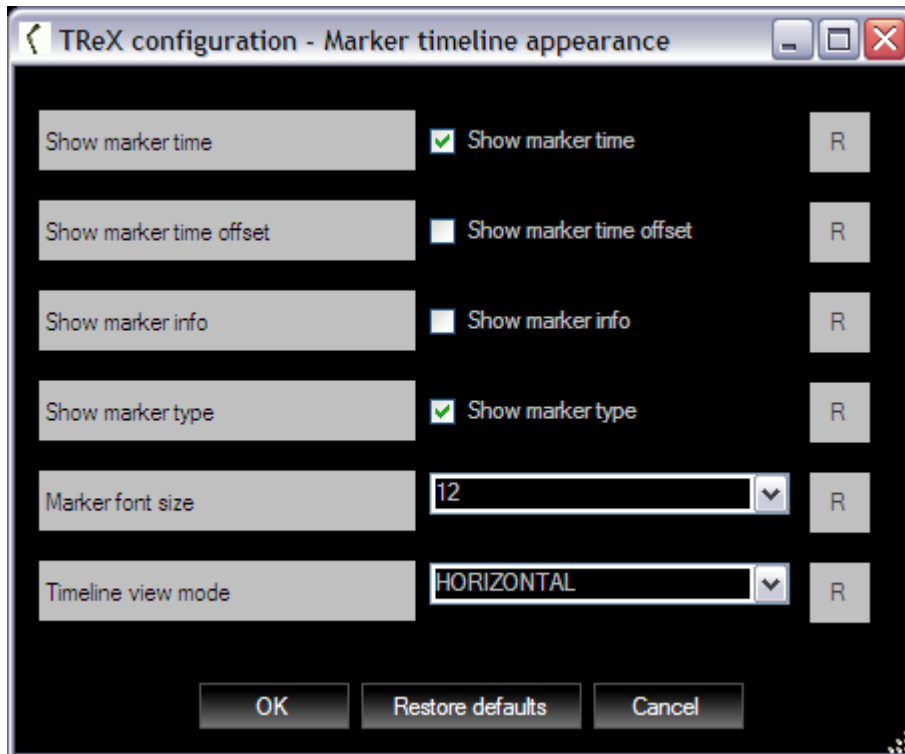
- **Offset time**
This is the time offset referring to the beginning of the recording.

5.2. Visualisation

5.2.1. Marker timeline

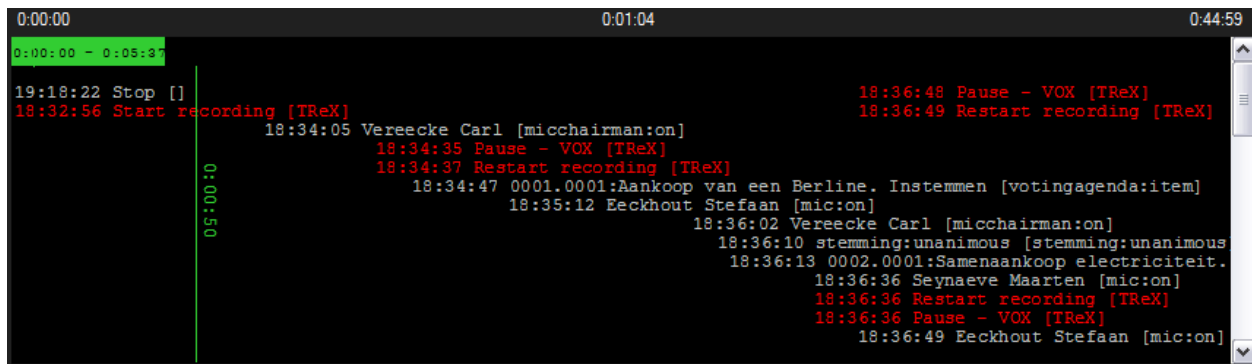
In the T-ReX Recorder and T-ReX Transcription, markers are lined out on a timeline.

The appearance of the markers on this timeline can be configured.



The visualization of the markers can be either horizontally or vertically.

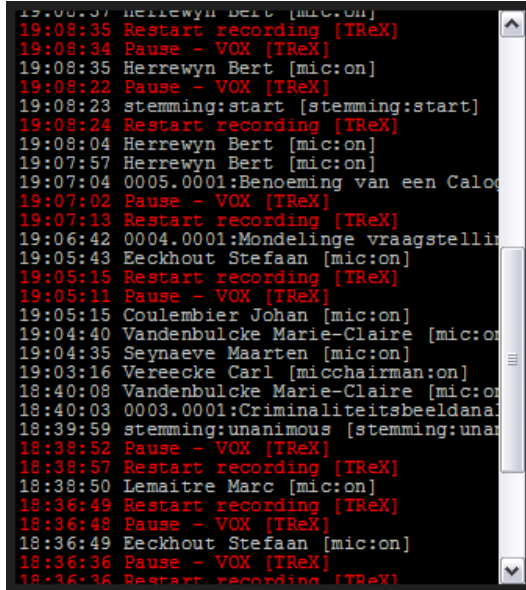
In the horizontal visualization, the markers are set out on a timeline.



The zoom factor of the timeline can be set with the following buttons:

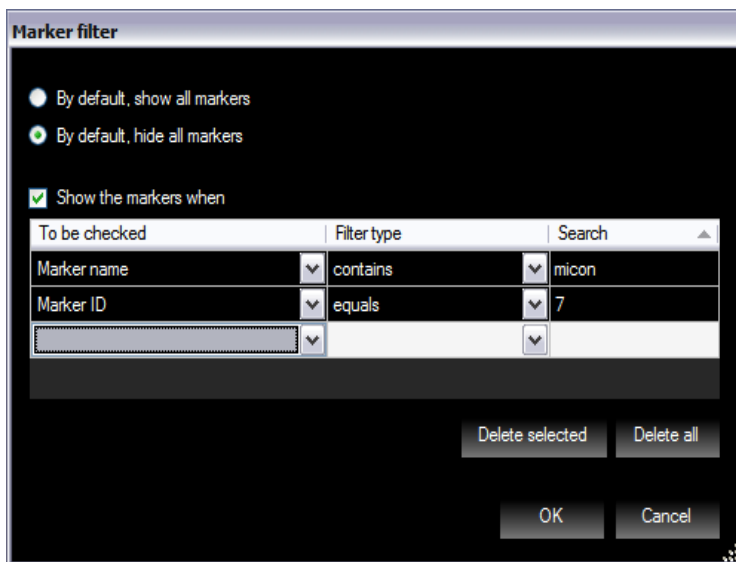


In the vertical visualization, markers are listed up vertically, either “last on top”, or “last on bottom”.



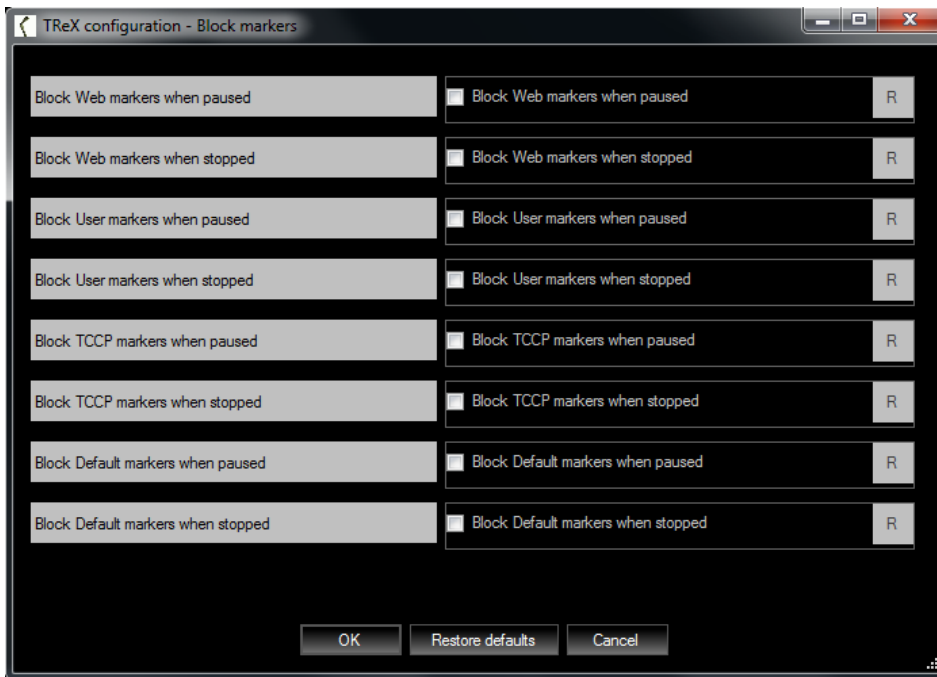
5.2.2. Filtering

The appearance of markers can be filtered. By filtering, one can specify which markers to show in the interface. Filtering can be done by marker type, marker ID, ...



5.2.3. Blocking

Markers can be blocked if the active recording is paused, or if there is no active recording when the marker is received. This blocking can be done for each marker type separately. Blocked markers will be immediately discarded, and can't be recovered afterwards.

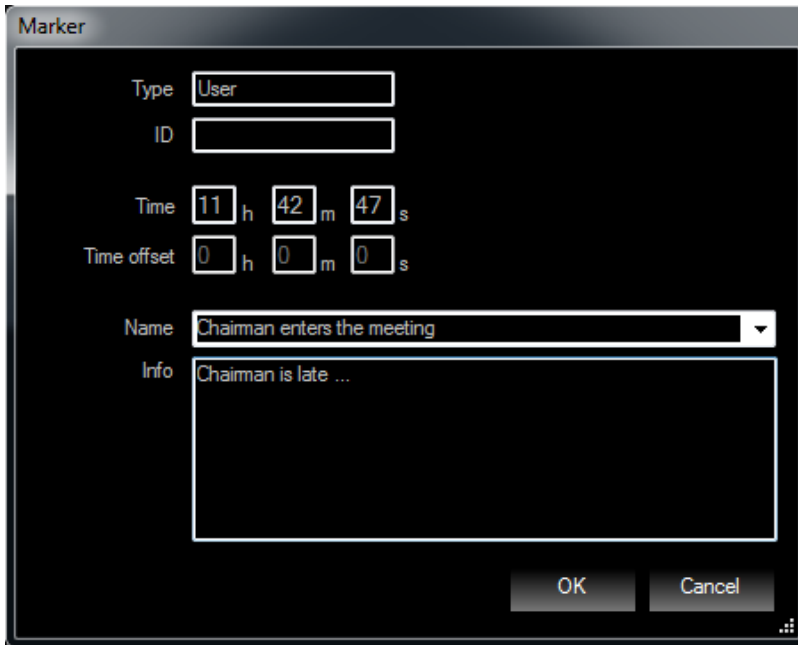


5.3. Manual markers

In the T-ReX Recorder and T-ReX Transcription applications, markers can be added or edited manually.

5.3.1. Add a marker

To add a marker, go to the marker menu item, and click the **Add** menu item. The marker window is shown, in which the marker parameters can be set.



The image shows a 'Marker' dialog box with the following fields:

- Type: User
- ID: (empty)
- Time: 11 h 42 m 47 s
- Time offset: 0 h 0 m 0 s
- Name: Chairmen enters the meeting
- Info: Chairmen is late ...

Buttons: OK, Cancel

Click OK to add the marker.

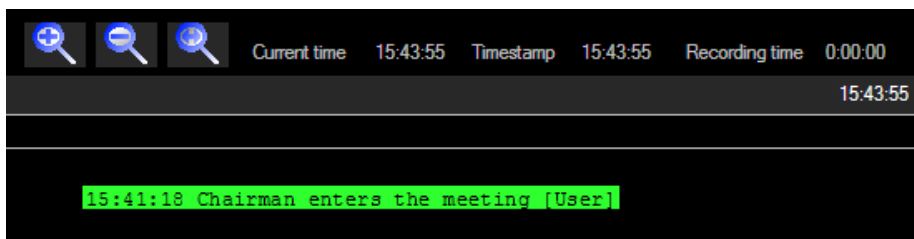


Shortcut key

Hitting the [space] button also brings up the marker window.

5.3.2. Move a marker

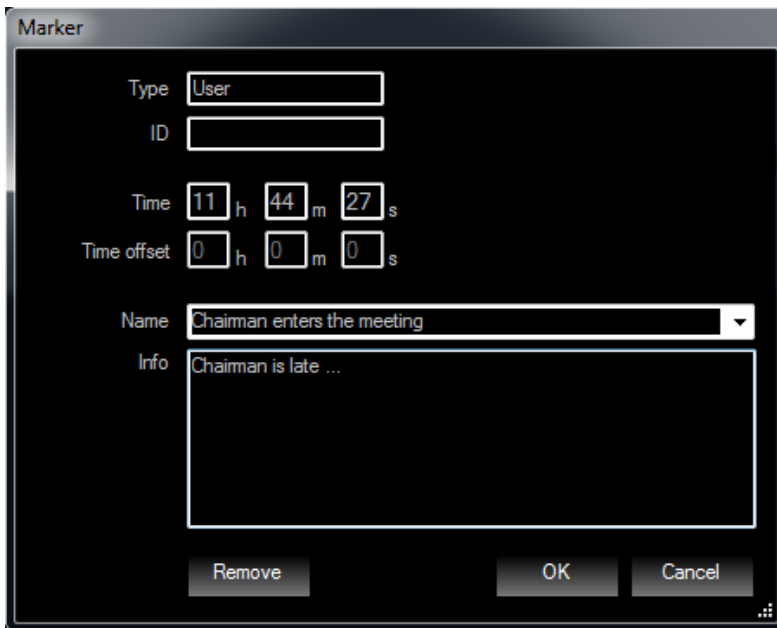
Hoover the mouse pointer over the marker. The marker text will be inverted.



While the text is inverted, hold down the right mouse button and drag the marker to another position.

5.3.3. Edit/remove a marker

Hoover the mouse pointer over the marker. The marker text will be inverted. Double-click the left mouse button to open the marker window.



Marker

Type

ID

Time h m s

Time offset h m s

Name

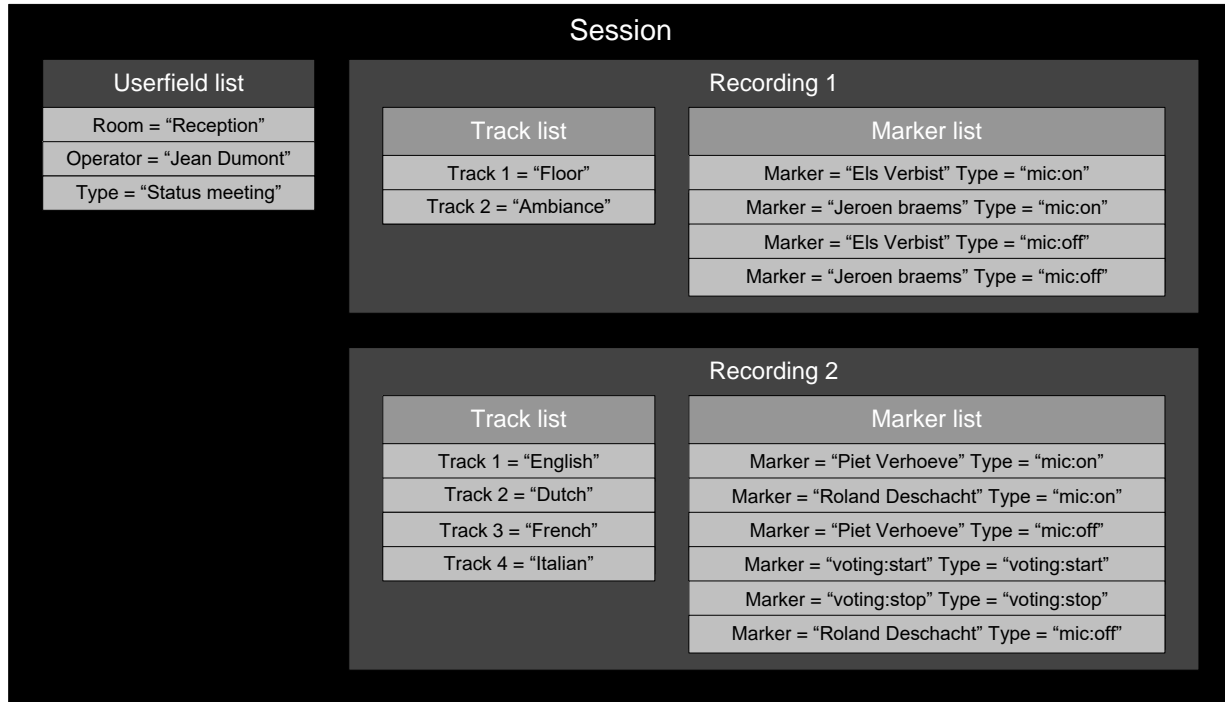
Info

- Change the marker parameters and click the OK button, or
- Click the Remove button to remove the marker.

6. Sessions

6.1. Introduction

T-ReX uses standard audio file formats (mp3 or wav) to store the **audio data**. Next to this audio data, all additional data belonging to this audio data is stored in a **session** file.

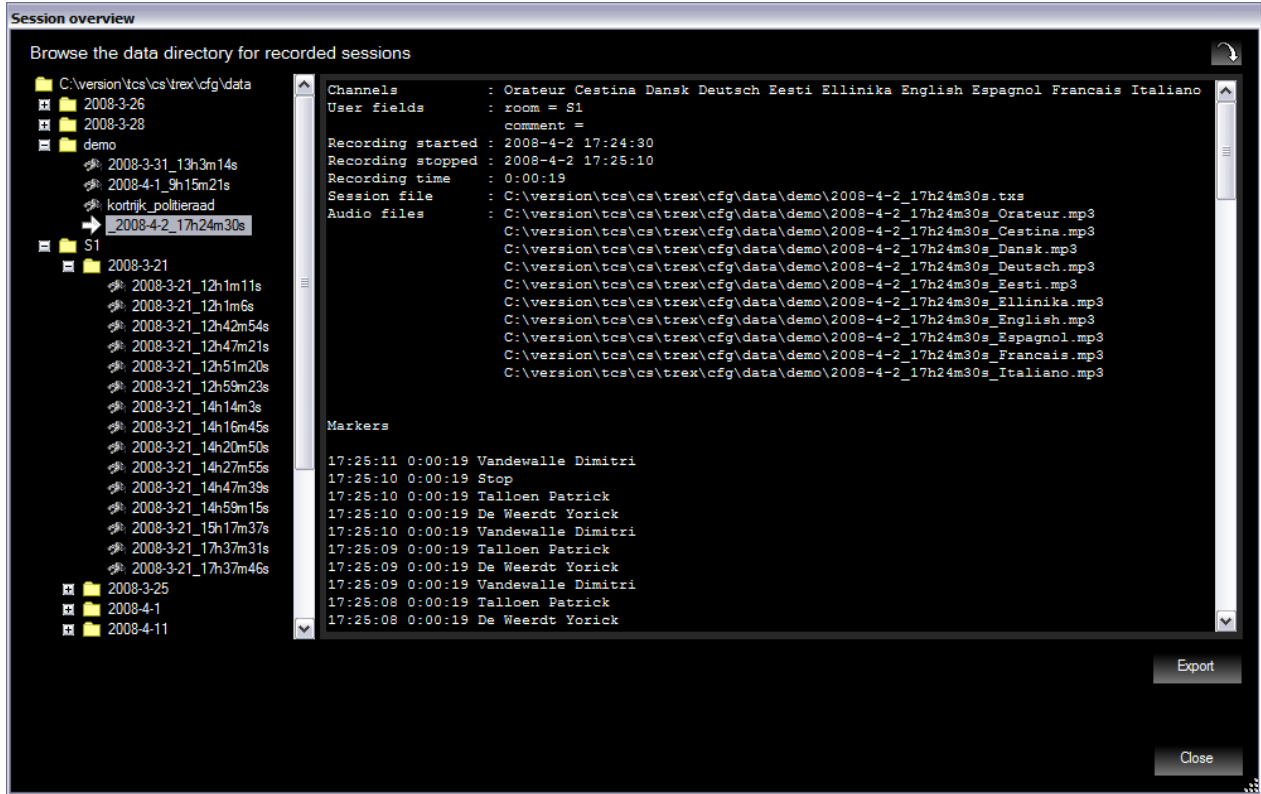


Rules within a session:

- A single session can contain **user fields**. User fields are used to store relevant session information (for instance the name of the room in which the recording was done, or the name of the person who has made the recording).
- A single session can contain a list of **recordings**.
- A single recording can contain a list of audio **tracks** (one per channel).
- A single recording can contain a list of **markers**.

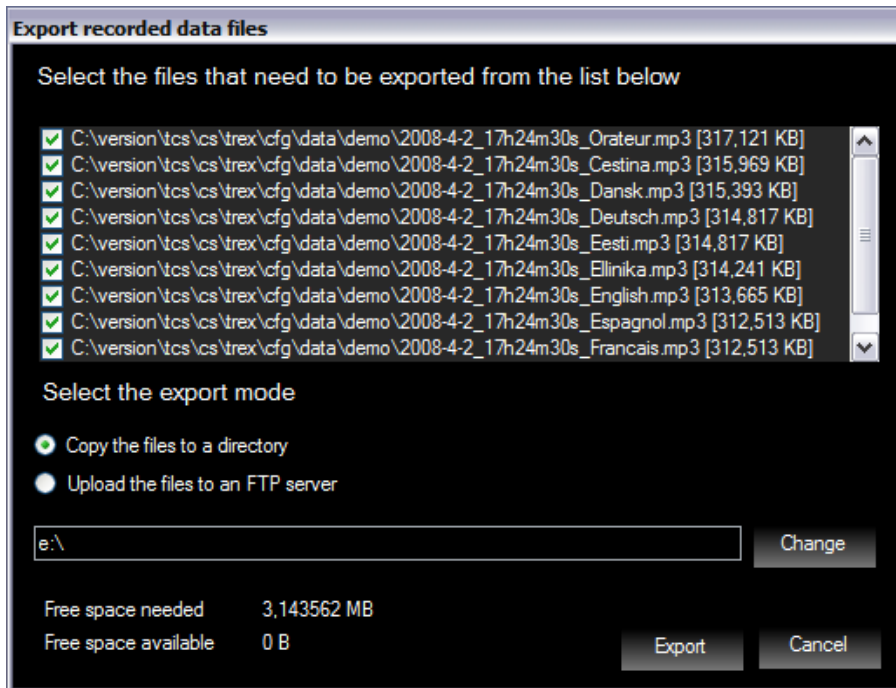
6.2. Session overview

In the T-ReX Recorder and T-ReX Transcription, one can get an overview of all sessions.



6.3. Export

Sessions can be exported, either by a file copy or an FTP upload to an FTP server.



6.4. Session file format

Sessions are stored in XML formatted files. This way, session can very easily imported in other applications, for instance been transformed in web pages.

Example of a tracklist:

```
<tracklist>
  <track name="floor">
    <medialist>
      <media timeoffset="0:0:0">2008-4-1_9h15m21s_floor.mp3</media>
    </medialist>
  </track>
  <track name="nederlands">
    <medialist>
      <media timeoffset="0:0:0">2008-4-1_9h15m21s_nederlands.mp3</media>
    </medialist>
  </track>
</tracklist>
```

Example of a markerlist:

```
<markerlist name="Session recording">
  <marker name="Start recording" time="9:15:21" timeoffset="0:00:00" type="TReX" />
  <marker name="Delegate N4 " time="9:15:22" timeoffset="0:00:00" type="mic:on" id="3">
    <info>Mic has been switched ON. Microphone number = 4. Delegate name = Delegate N4 </info>
  </marker>
  <marker name="4" time="9:15:22" timeoffset="0:00:01" type="mic:off" id="4">
    <info>Mic has been switched OFF. Microphone number = 4</info>
  </marker>
  <marker name="Delegate N1 " time="9:15:23" timeoffset="0:00:01" type="mic:on" id="3">
    <info>Mic has been switched ON. Microphone number = 1. Delegate name = Delegate N1 </info>
  </marker>
</markerlist>
```

Example of a session file, transformed into a webpage:

TReX session

Session recorded at 2008-3-31, 13:03:14

Information

Start date 2008-3-31
 Start time 13:03:14
 Stop date 2008-3-31
 Stop time 15:54:23
 Total recording time 2:51:04

Audio files

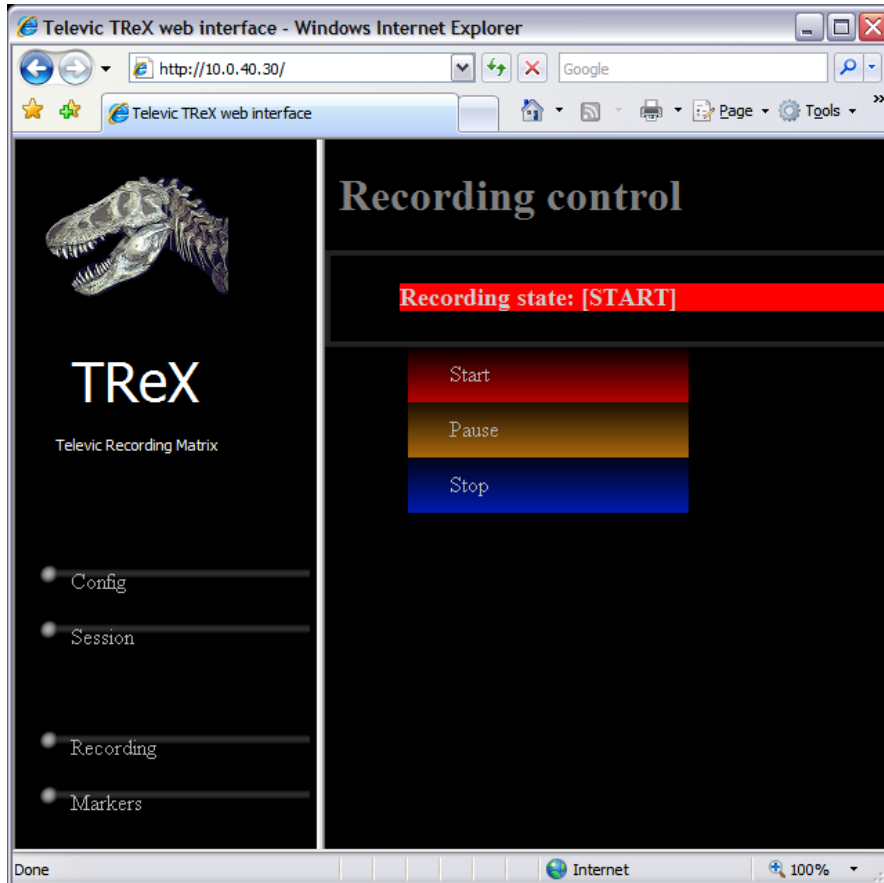
2008-3-31_13h3m14s_floor.mp3
 2008-3-31_13h3m14s_nederlands.mp3

Markers

Time	Type	ID	Name	floor	nederlands
13:03:14	TReX		Start recording	floor	nederlands
13:03:14	mic:off	4	4	floor	nederlands
13:03:16	mic:on	3	Delegate N1	floor	nederlands
13:03:17	mic:off	4	1	floor	nederlands
13:03:19	mic:on	3	Delegate N2	floor	nederlands
13:03:20	mic:off	4	2	floor	nederlands
13:03:22	mic:off	2	Delegate N3	floor	nederlands

6.5. Remote supervision

T-ReX Recorder can run as a HTTP server. This way, the recorder can be controlled from any web browser and does not need any commercial license. The web-pages are delivered within the T-ReX package and can be changed by a customer to meet his specific needs. This is a very powerful way to let a customer integrate T-ReX Recorder functionality in his own web-based application.



6.5.1. Configuration information

TReX configuration	
Number of channels	4
Sample frequency	16000
Working directory	C:\Program Files\trex
VOX level threshold	0
VOX time threshold	10000
VOX controls recording	false
New session per recording	true

6.5.2. Session information



6.5.3. Markers



6.5.4. Recording control

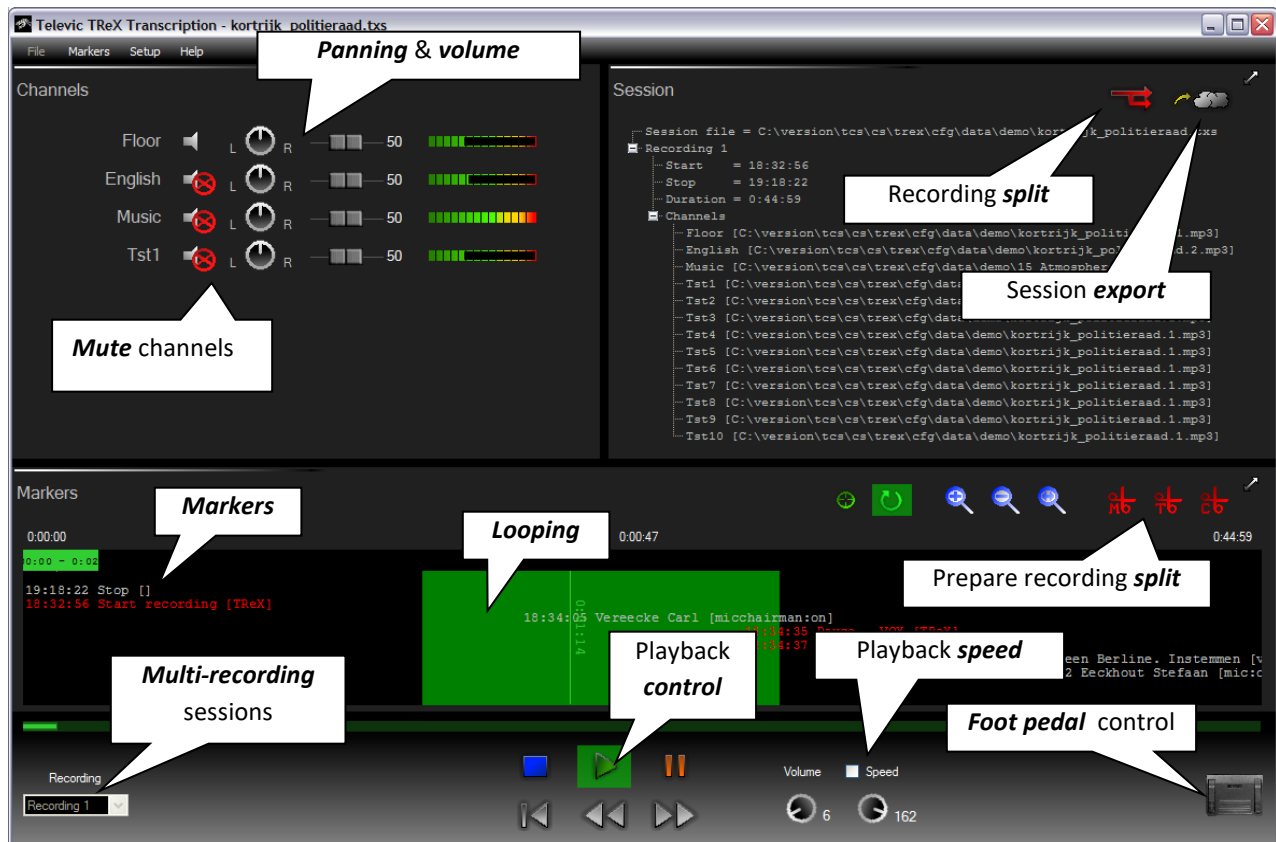


7. T-ReX Transcription

7.1. Introduction

The *T-ReX transcription* provides a multi-channel audio playback application.

Main features of the T-ReX transcription:



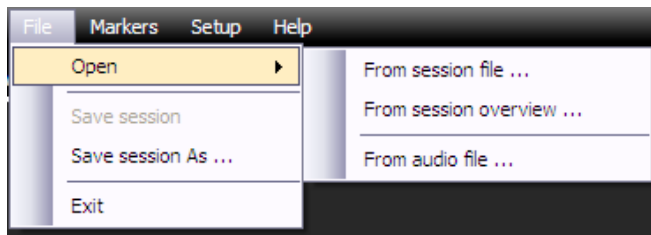
- Easy installation & configuration.
- Multi-channel audio player
- Start, pause, stop playback.
- Channels can be panned to the left or right output.
For instance, the floor channel can be panned to the left, English can be mixed to the panned.
- Fast forward, jump backwards, looping
- Playback speed.
- Jump to markers.
- Manual marker adding & editing.
- Foot pedal control & shortcut keys.
- Add, remove, move, edit markers
- Create multi-recording sessions
- Create a new session from an audio file.

- Configurable amount of seconds to rewind when resuming the recording.

7.2. Sessions

Sessions can be opened in different ways:

- By opening the **session file**.
- By opening the session from the **session overview**.
The session overview will present the sessions which were recorder previously with the T-ReX Recorder. The overview thus will only contain sessions if the T-ReX recorder is installed on the same PC as the T-ReX Transcription.
- By opening an **audio file**.
A new session file is automatically created. A single recording is added to the session with a single track (the audio file).



7.3. Playback control

T-ReX transcription playback can be controlled by

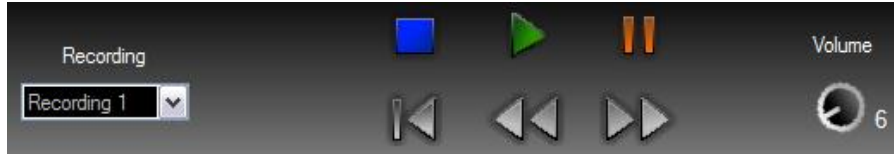
- User interface
- Shortcut keys
- Foot pedal

Once a session is loaded in the T-ReX Transcription, the recordings are listed up. Select the recording out of the list. Playback now can be started/paused/stopped.

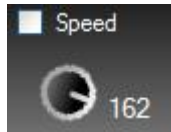
The following can be controlled by shortcut keys and foot pedals:

- Volume up/down
- Start/pause/stop playback
- Speed up/slow down playback
- Rewind/jump backwards/fast forward

7.3.1. User interface



Also, the playback speed can be changed. In order to do so, check the Playback speed option, and set the desired playback speed.



Playback speed and panning

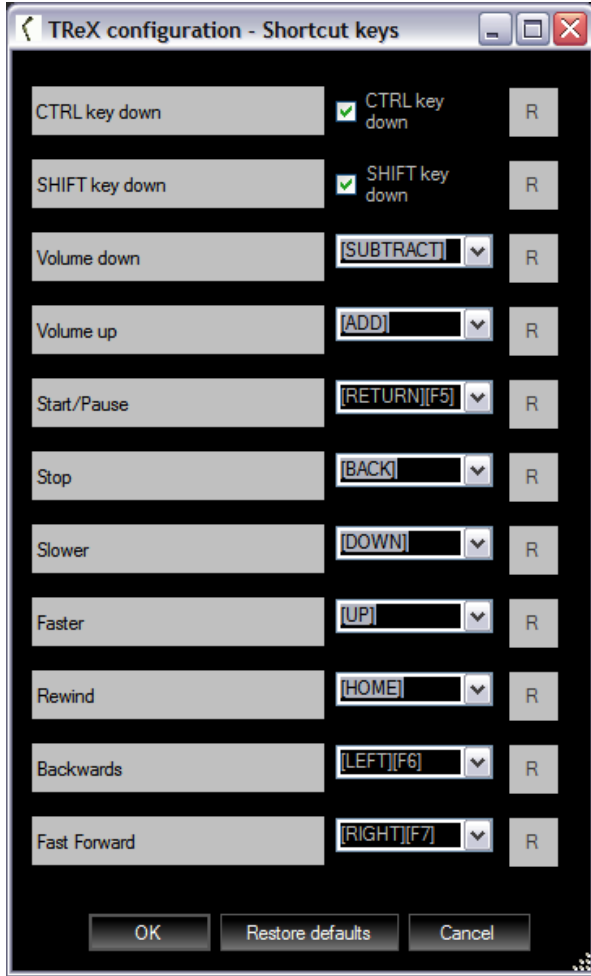
When playback speed is changed, all channels are mixed both to the left and right outputs, so panning will have no effect.

7.3.2. Shortcuts keys

A shortcut is *a combination of keys being hit*. Shortcut keys come in very useful when a transcriber is using another program to do the actual transcription (typing down what is being said). By using shortcut keys, the transcriber doesn't need to switch over to the T-ReX Transcription user interface, to start/stop/pause/... playback the recordings. T-ReX Transcription can run on the background, behind the application that the transcriber is using. Whenever a shortcut is hit, T-ReX Transcription will notify this, even when it is running in the background.

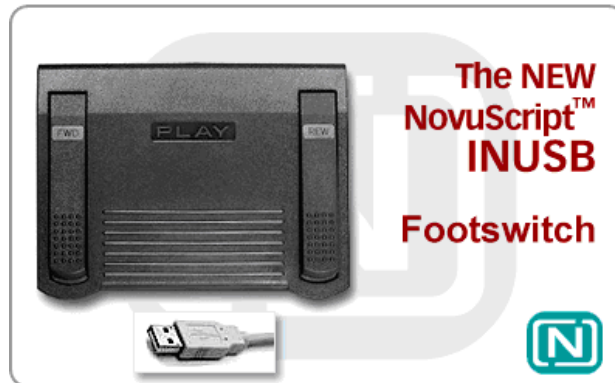
By default, the CTRL and SHIFT keys need to be held down in combination with another key. This can be switched off, but it is advised to use the CTRL & SHIFT combination, otherwise the shortcuts might interfere with the application on the foreground.

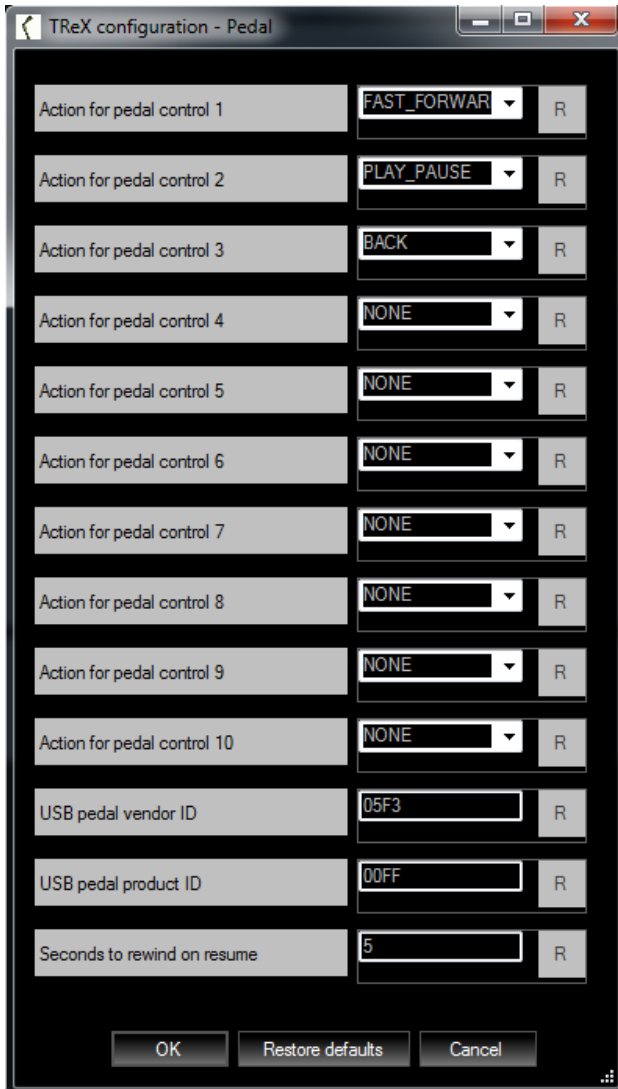
It's possible to assign more than one shortcut keystroke to a certain action. This makes it possible to control the same functionality by different keys.



7.3.3. Foot pedal

T-ReX Transcription supports USB HID (Human Interface Devices) foot pedals. The pedal is connected to the USB port. Each and every pedal control can be configured to activate an action. The pedal has to be identified by the pedal's HID vendor ID and product ID. Other foot pedals are not supported.





7.4. Marker timeline

Next to the standard functionality (editing/moving/removing markers), the timeline also supports additional functionality within the T-ReX Transcription.

7.4.1. Playback offset

The playback offset is show by a line with the corresponding time offset.

7.4.2. Mode

The timeline can be set in 2 modes.

- **Offset mode**



While in offset mode, clicking on the timeline will make playback jump to the selected time offset.

- **Looping mode**



While in looping mode, clicking on the timeline will set the looping boundaries.

Clicking the left mouse button sets the left boundary, clicking the right mouse button sets the right boundary.

7.4.3. Timeline behaviour

Depending on the mode the timeline is in, the timeline will respond differently to mouse events. The following table gives an overview on the behavior of the timeline.

Mode		Click position		Button		Event				Action
Offset	Looping	Marker	Timeline	Left	Right	Mousedown	Mouseup	Click	Double click	
X	X	X		X				X		Set offset to the selected marker
X	X	X		X					X	Edit marker
X	X	X			X	X	X			Drag&drop marker
X			X	X				X		Set offset to selected position on timeline
X			X	X					X	New marker at the selected position
	X		X	X	X	X	X			Set selection

7.5. Split recordings

A session can contain 1 or more recordings. With the T-ReX Transcription, it is possible to split those recordings into smaller recordings. This comes in useful, for instance, when the audio files become too big.

First, select the recording to be split.



Next, the split needs to be prepared. This means that one has to decide how to split up the recording. The timeline will indicate the split preparation (same color as the split state: blue when idle, red while splitting), by splitting up the timeline in time slices. Preparing the split can be done in 3 different ways.

- Split by *markers*



In this mode, each and every marker will cause a split.

```
TReX] 1
18:34:05 Vereecke Carl [micchairman:on] 1
18:34:35 Pause - VOX [TReX]
18:34:37 Restart recording [TReX]
18:34:47 0001.0001:Aankoop van een Berline
18:35:12 Eeckhout Stefaan [mic:on]
18:36:02 Vereecke
18:36:10 stemm
18:36:13 0002
18:36
18:36
18:36
1
```

- Split by *time interval*



In this mode, the total recording time is split up into a number of equally timed slices.

```
TReX] 18:36:4
18:34:05 Vereecke Carl [micchairman:on]
18:34:35 Pause - VOX [TReX]
18:34:37 Restart recording [TReX]
18:34:47 0001.0001:Aankoop van een Berline. Inst
18:35:12 Eeckhout Stefaan [mic:on]
18:36:02 Vereecke Carl
18:36:10 stemming:un
18:36:13 0002.0001:
18:36:36 Se
18:36:36 Re
18:36:36 Pa
18:36:4
```

- Split by *count*



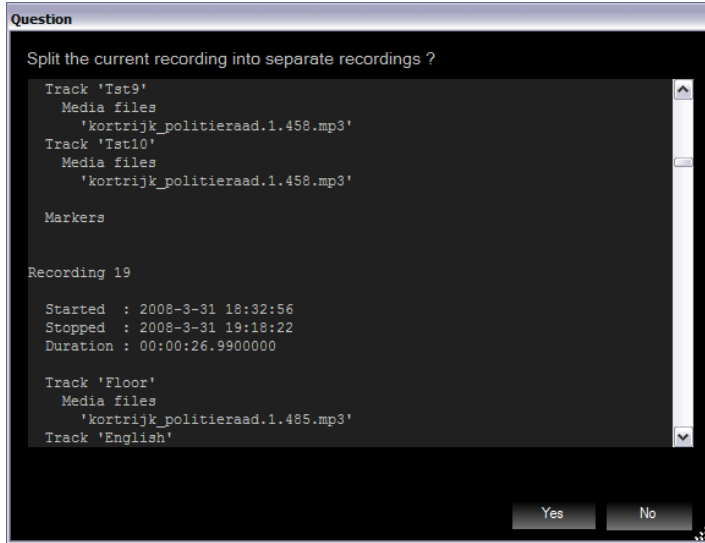
In this mode, the total recording time is split in a given number of time slices.

```
TReX]
18:34:05 Vereecke Carl [micchairman:on]
18:34:35 Pause - VOX [TReX]
18:34:37 Restart recording [TReX]
18:34:47 0001.0001:Aankoop van een Ber
18:35:12 Eeckhout Stefaan [mic
18:36:02 Ver
18:36:10 s
18:36:13
1
1
1
```

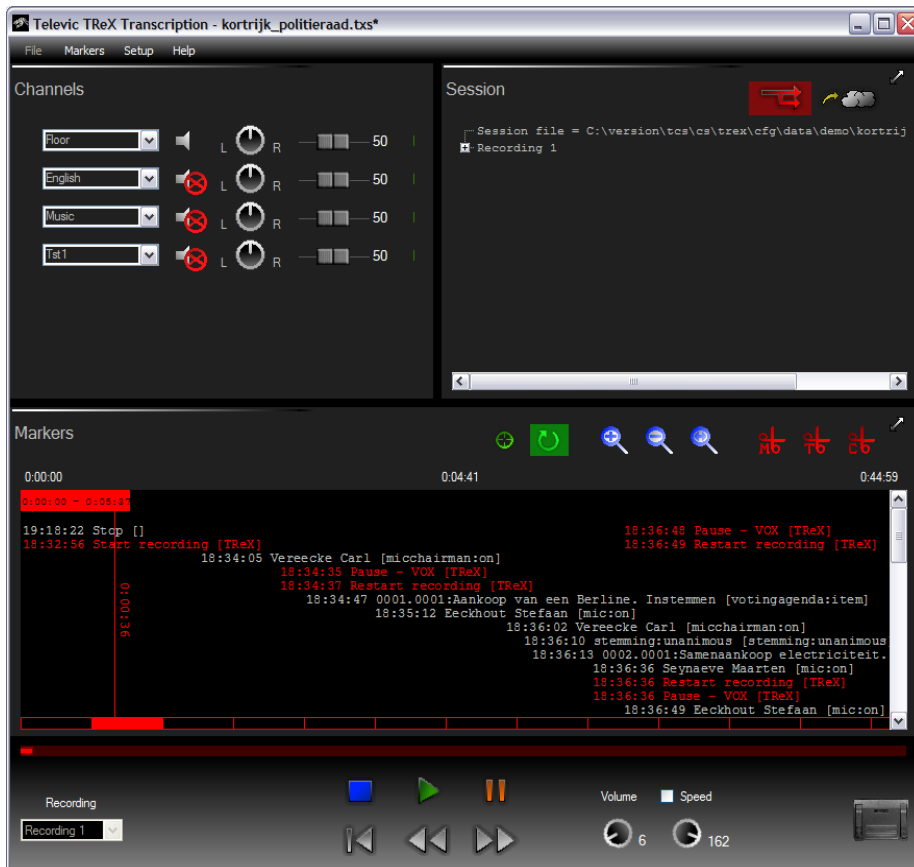


Once the split has been prepared, it can be executed by clicking the split button.

Next, T-ReX Transcription shows how the split recording will look like afterwards, and asks for confirmation.

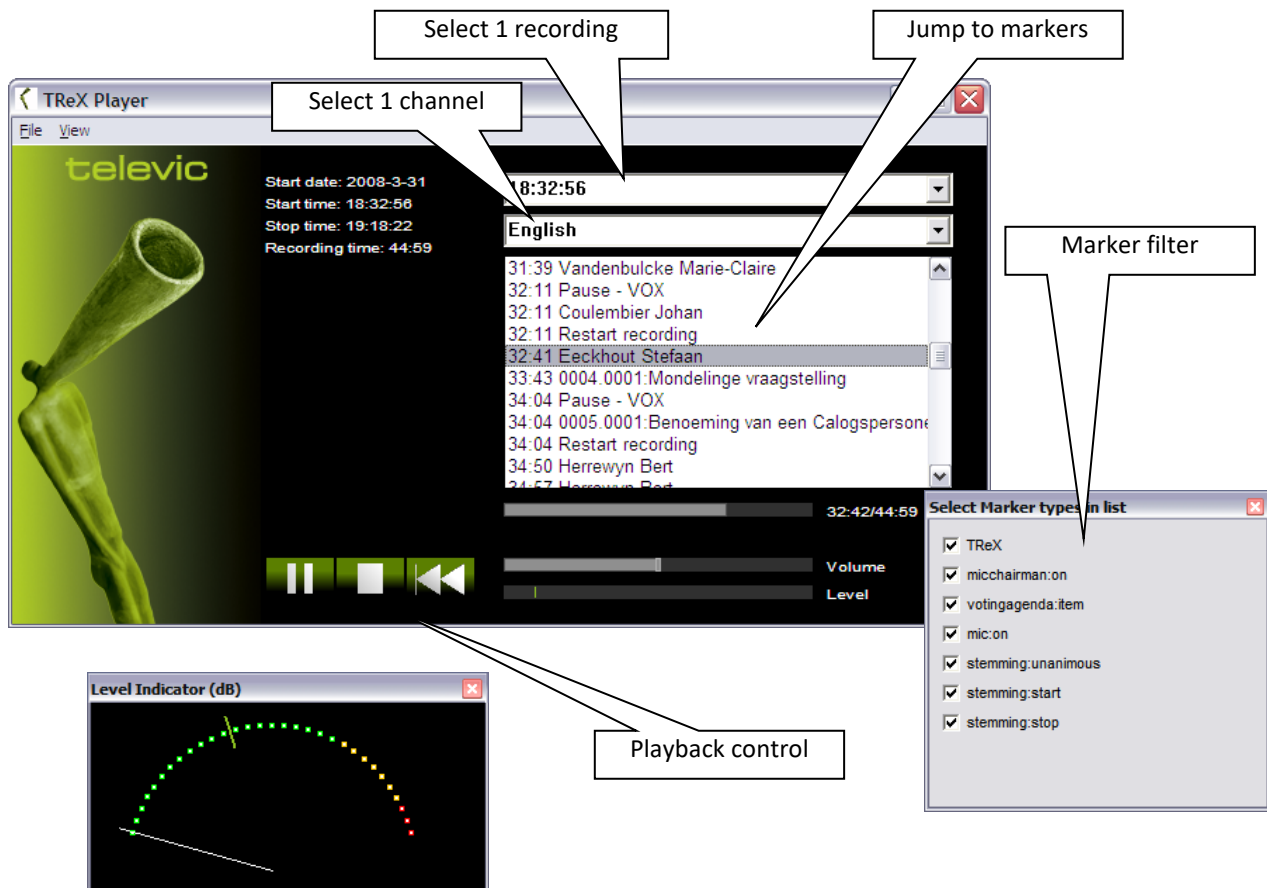


After confirmation, T-ReX Transcription starts splitting the recording.



When splitting has finished, the newly created session can be saved in a new session file, and the newly created session is opened.

8. T-ReX Player



1 channel audio player

The **T-ReX player** provides a single channel audio playback application.

Main features of the T-ReX player:

- No installation & configuration needed.
- Single channel audio player.
- Jump to markers.
- Jump in time.



No spaces in file name

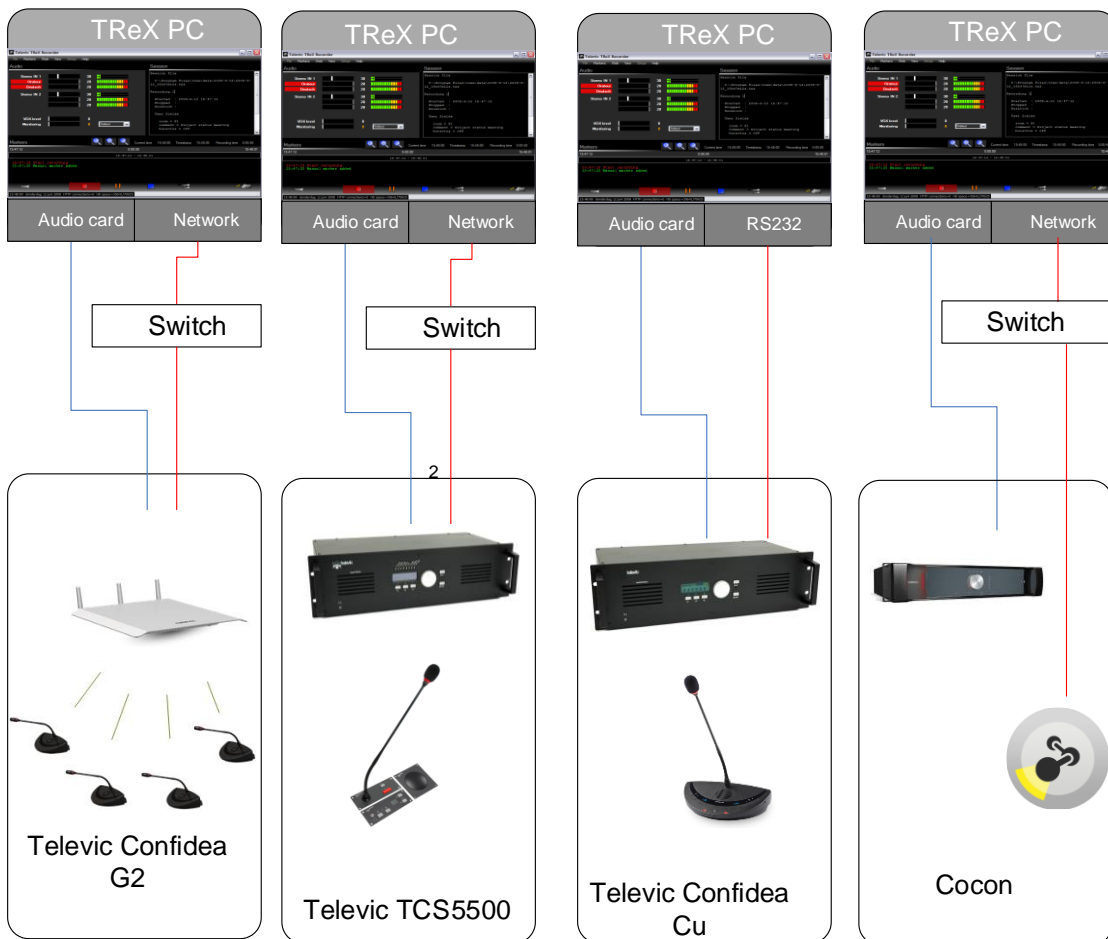
Recording files with spaces in the file name will not work with T-ReX Player. Make sure there are no spaces in the path of each file.

Section 4 – Use cases

9. Televic Conference Systems

The T-ReX Recorder can connect to and receive markers from the following Televic Conference Systems:

- Televic Confidea wireless
- Televic TCS5500
- Televic Confidea CU
- Televic Confidea G1/2
- Televic Confidea G3 (only via Cocon SW suite)
- Televic Plixus MME/AE (only via Cocon SW suite)



9.1. Step 1 – Hardware configuration

Two types of hardware connections need to be made in order to link both systems:

- Analogue audio connection (to record the audio)
- Communication connection (for auto markers)

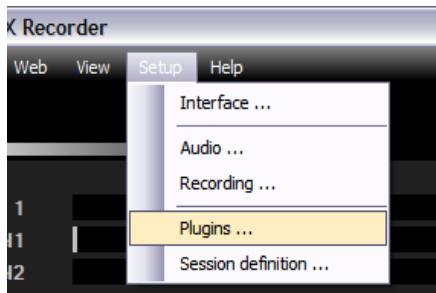
Establish the analogue audio connection by connecting the analogue audio outputs from the Televic Conference System's central unit to the sound card input(s) of the T-ReX PC. If more than 2 channels have to be recorded, a multichannel soundcard is required on the PC.

For details on how to route the audio signal out of the Televic Conference System's central unit, please refer to the manual of the Conference System.

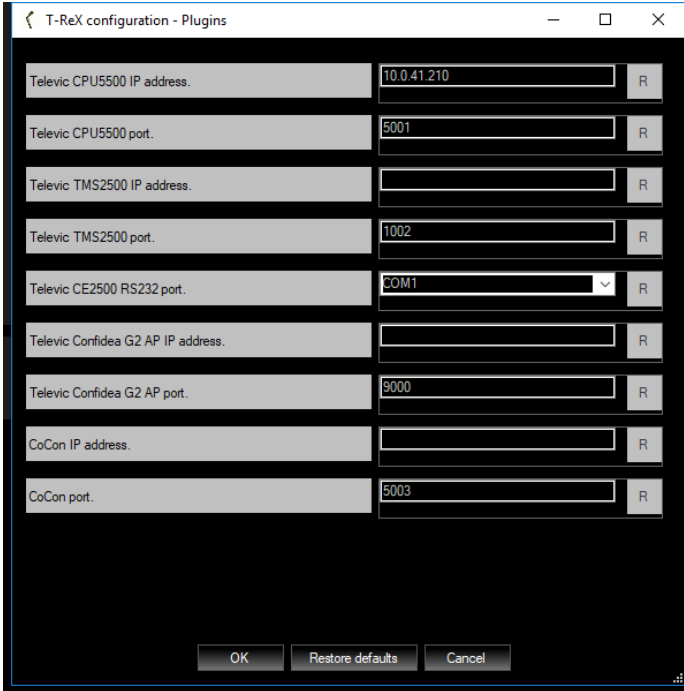
Establish the communication connection by connecting the T-ReX PC with the Conference System over TCP/IP or RS232.

9.2. Step 2 – T-ReX plugin configuration

In order to let the T-ReX connect to the Conference System, the plugins need to be configured.



The plugin settings are conference system specific.



The following table gives an overview of all of the markers which are supported per Conference System:

Conference system	TCS5500		Confidea CU		
	CPU5500	CPU5500	Software suite	Software suite	Confidea CU
T-ReX connects to	TCP/IP	TCP/IP	TCP/IP	TCP/IP	Serial (RS232)
Connection over	-	TMS5500/Cocon	TMS2500	Cocon	-
Software suite	CPU5500	CPU5500	TMS2500	Cocon	CE2500
Plugin	API	API	TLVCAM8	TLVCAM5	Control panel commands
Mic on	YES	YES	YES	YES	YES
Mic off	YES	YES	YES	YES	YES
Delegate name	-	YES	YES	YES	-
Badge in	-	-	-	-	-
Badge out	-	-	-	-	-
Voting agenda open	-	YES	YES	See chpt 9.4	-
Voting agenda item	-	YES	YES	See chpt 9.4	-
Voting start	-	YES	YES	-	-
Voting stop	-	YES	YES	-	-
Voting unanimous	-	-	YES	-	-
Voting agenda closed	-	YES	YES	-	-

Conference system	Confidea wireless Gen 2	Confidea wireless Gen 2	Confidea wireless Gen 2	Confidea wireless Gen 3	Plixus	Plixus ERS (Core) & Confero
T-ReX connects to	WCAP	Software suite	Software suite	Software suite	Software suite	Plixus ERS (Core)
Connection over	TCP/IP	TCP/IP	TCP/IP	TCP/IP	TCP/IP	TCP/IP
Software suite	-	Cocon	Confidea CS	Cocon	Cocon	-
Plug in	WCAP	Cocon	TMS2500	Cocon	Cocon	Cocon
Protocol	TCCP	TLVCAM5	TLVCAM8	TLVCAM5	TLVCAM5	TLVCAM1
Mic on	YES	YES	YES	YES	YES	YES
Mic off	YES	YES	YES	YES	YES	YES
Delegate name		YES	YES	YES	YES	-
Badge in	-	-	-	-	-	-
Badge out	-	-	-	-	-	-
Voting agenda open	-	-	YES	-	-	-
Voting agenda item	-	-	YES	-	-	-
Voting start	-	-	YES	-	-	-
Voting stop	-	-	YES	-	-	-
Voting unanimous	-	-	YES	-	-	-
Voting agenda closed	-	-	YES	-	-	-

9.3. Step 3 – Conference System configuration

9.3.1. Confidea wireless G2

- T-ReX Recorder communicates directly with the Access Point, no specific configuration is needed.
- Indirect connection, via the Cocon software suite . Cocon roomconfigurator needs to be configured as follows:

Camera Settings

Camera 1

Status: Click the Save button to apply settings.

Type: Protocol:

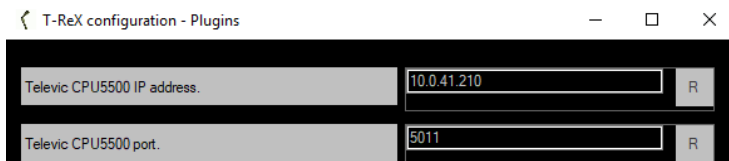
Local TCP Listening Port:

Remark : make sure to select the same tcp port in T-ReX plugin

9.3.2. TCS5500

- T-ReX Recorder communicates directly with the CPU5500 via API

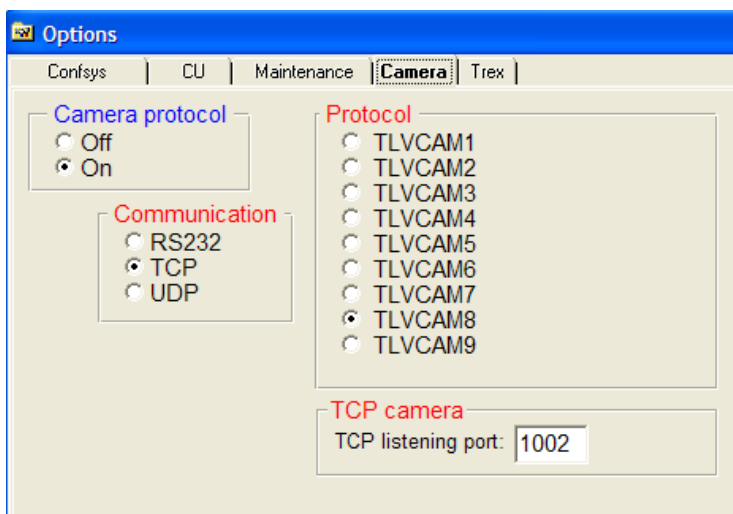
Tcp port 5001 or 5011 to be used



9.3.3. Confidea wired

Communication with Confidea CU is supported in three ways:

- RS232: direct connection between the T-ReX PC and the Confidea CU. Connect the configured RS232 port of the T-ReX PC to the **COM2** of the Confidea CU. Activate the **Control Panel** communication on the Confidea CU.
 Remark : If you have a serial port on your PC and COM2 and COM3 of the Confidea CU will be used, you must first start the application that is using the USB to serial convertor before you start the application that is using the serial port of your PC.
- TCP/IP: indirect connection, via the TMS2500 software (Televic Microphone System Software). The TMS2500 software needs to be configured:



Remark : make sure to select the same tcp port in T-ReX plugin

- TCP/IP: indirect connection, via the Cocon software suite .
Cocon roomconfigurator needs to be be configured as follows:

Camera Settings

Camera 1	Status	ON <input type="button" value="v"/>		<input type="button" value="Save"/>	Click the Save button to apply settings.
	Type	TCP/IP <input type="button" value="v"/>	Protocol	TLVCAM5 <input type="button" value="v"/>	
	Local TCP Listening Port	5003 <input type="text"/>			

Remark : make sure to select the same tcp port in T-ReX plugin

9.3.4. Confidea G3 & Plixus MME

- TCP/IP: indirect connection, via the Cocon software suite .
Cocon roomconfigurator needs to be be configured as follows:

Camera Settings

Camera 1	Status	ON <input type="button" value="v"/>		<input type="button" value="Save"/>	Click the Save button to apply settings.
	Type	TCP/IP <input type="button" value="v"/>	Protocol	TLVCAM5 <input type="button" value="v"/>	
	Local TCP Listening Port	5003 <input type="text"/>			

Remarks :

- make sure to select the same tcp port in Trex plugin
- For use with Plixus MME/AE , the port 5011 and 5012 may not be used , since they are reserved for Cocon server <-> Plixus communication

9.3.5. Plixus ERS (Core) direct connection (not via Cocon)

- TCP/IP: direct connection, not the Cocon software suite , settings in Plixus webserver.

Camera protocol

Apply settings

Camera protocol	TLVCAM1	⌵
Network protocol	TCP/IP	⌵
Port	5003	

Disable camera protocol

9.4. Adding agenda markers when using Cocon

When TREX is used in combination with Cocon , there are no markers for agenda items

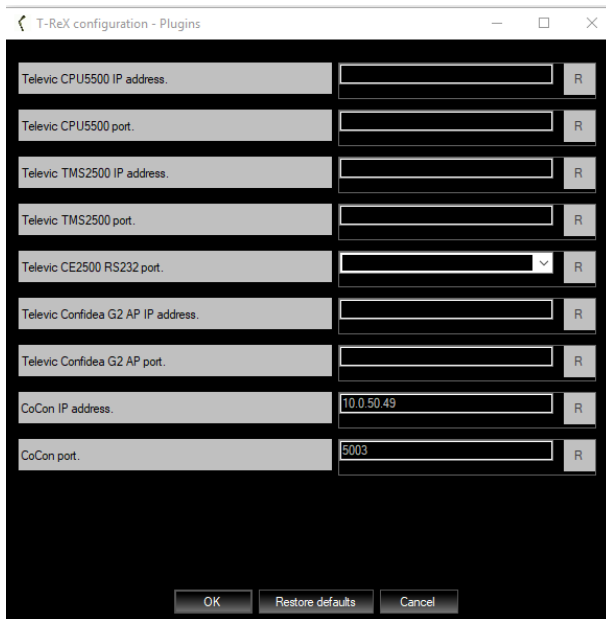
By running TREX as http server agenda items can be added as markerr

9.4.1. Add specific shtml files

2 files cocon.shtml and index.shtml in link below should be added (replace existing files if needed) under the folder C:\Program Files (x86)\trex\http

<https://televic.sharefile.com/d-s02c7e5761794589a>

9.4.2. Select Cocon plugin in TREX and add Cocon server ip address + select tcp port



9.4.3. Cocon for Plexus Core is used

➤ Cocon Core version < 5.3

Add following lines marked in red to the CocosServerConfig...xml file , under
C:\Users\username\AppData\Local\Televic Conference\CoCon

Remark : make sure Cocon server is NOT running when this file is changed !

<CoCoSServerConfig>

.....

```
<Setting Name="CameraControlEnabled" Value="True" />
<Setting Name="SelectedCommunicationType" Value="TCP" />
<Setting Name="CameraControlPort" Value="5003" />
<Setting Name="BaudRate" Value="" />
<Setting Name="TCPUDPAddress" Value="" />
<Setting Name="TlvProtocol" Value="4" />
```

.....

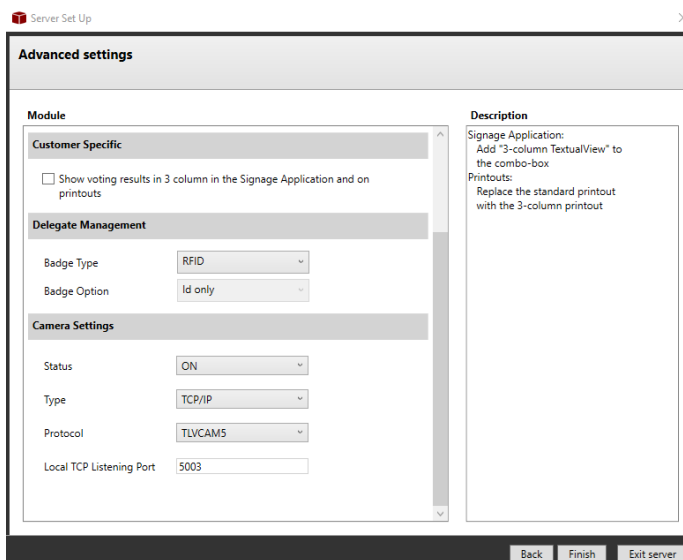
</Settings>

</CoCoSServerConfig>

This will enable Camera control commands TLVCAM5
In this example tcp port 5003 is used

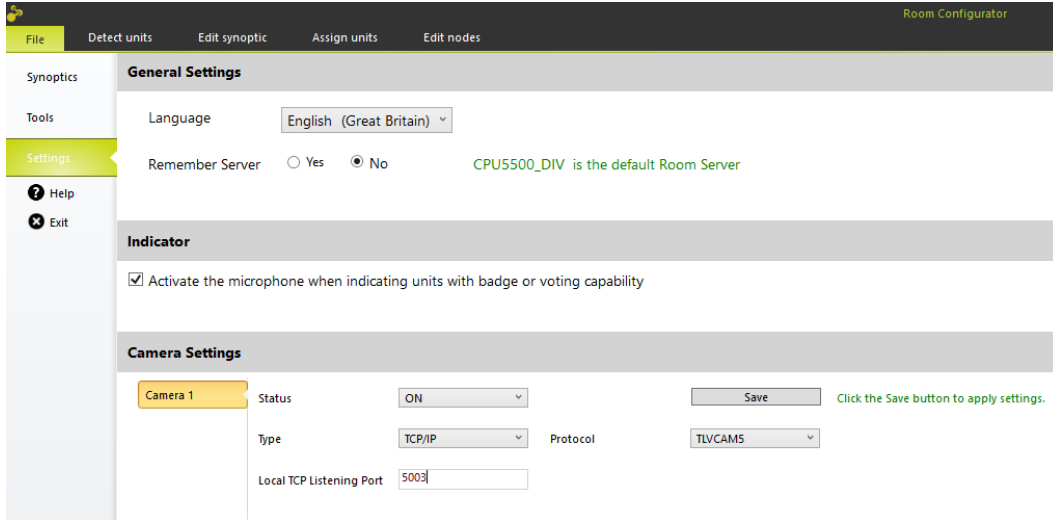
➤ Cocon Core version ≥ 5.3

Set camera control options in Cocon Core server wizard as in screen below (tcp port to be chosen)



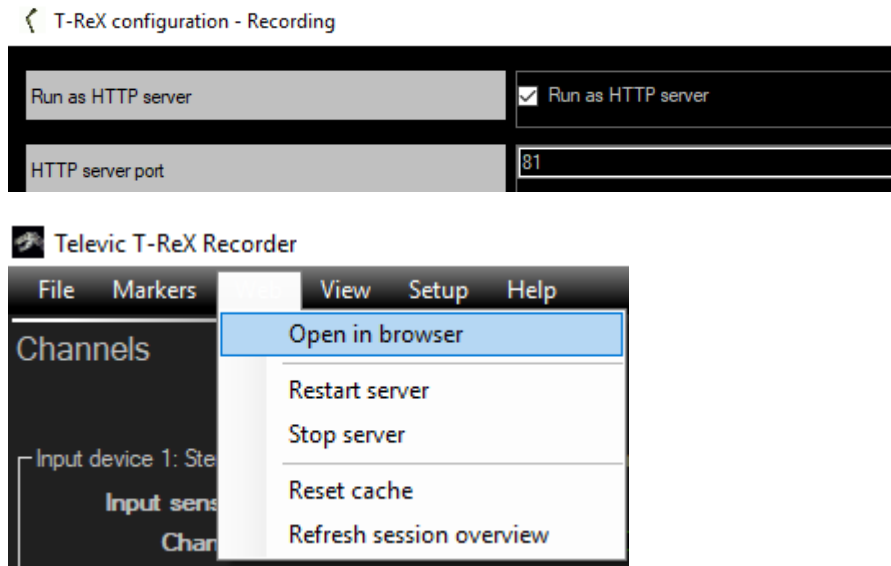
9.4.4. Other Cocon versions then CoCon for Plexus Core is used

Enable camera control commands TLVCAM5 in Cocon roomconfigurator and choose tcp port (e.g. 5003) .



9.4.5. Open T-REX webserver

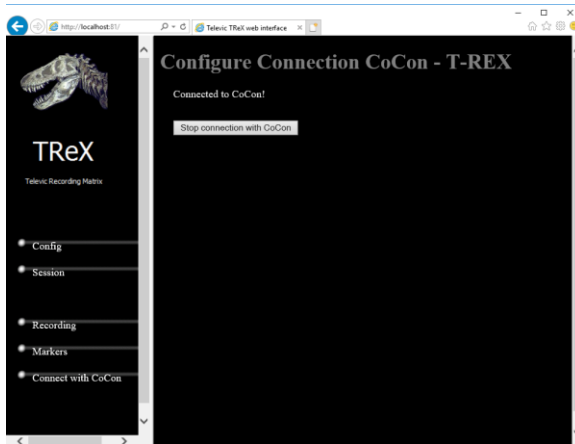
In T-REX Recording settings enable HTTP server and choose a unused tcp port e.g. Skype uses port 80 , so in this case choose port 81 or 82 ...



9.4.6. Connection with Cocon

Following screen will appear in your browser and select Start connection with Cocon

When connection with Cocon is established on the http server , agenda items will be added as marker



10. Dante Virtual Soundcard

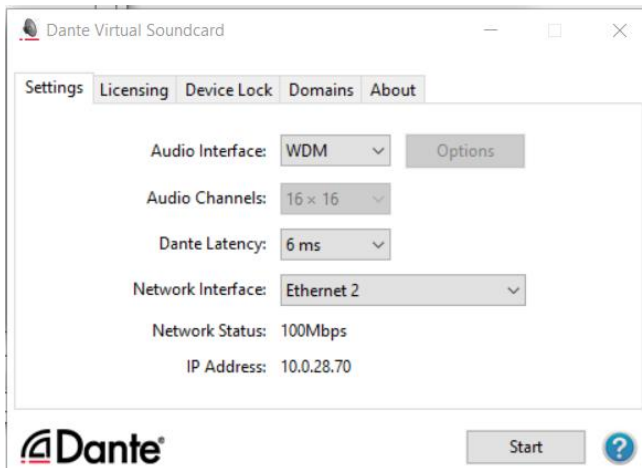
This chapter explains how a connection can be made between a Dante interface and T-ReX Recorder, using Dante Virtual Soundcard.

10.1. Step 1 – Dante Virtual Soundcard

Download and install the latest version of Dante Virtual Soundcard at <https://www.audinate.com/products/software/dante-virtual-soundcard> (v3.7.3.1 is used in this example).

Once installed, make sure you enter a valid license key or the soundcard will not function.

Apply the following settings, and press the 'Start' button to activate the Dante Virtual Soundcard.



Note: The 'Network Interface' should be the one connected to your Dante interface, preferably at speed of 1Gbps. Make sure this network interface has the correct IP settings in order to communicate with the Dante interface.

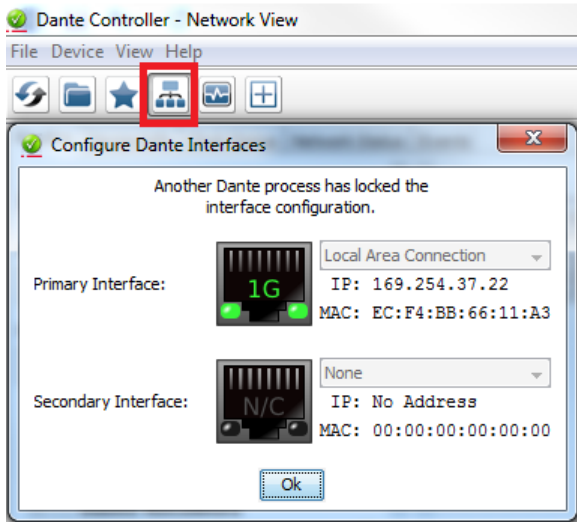
10.2. Step 2 – Dante Controller

Download and install the latest version of Dante Controller at <https://www.audinate.com/products/software/dante-controller> (v3.5.6.2 is used in this example).

You should see 2 Dante devices in the Dante Controller application:

- Your computer, which has Dante Virtual Soundcard running
- The Dante interface which is connected to your network interface.

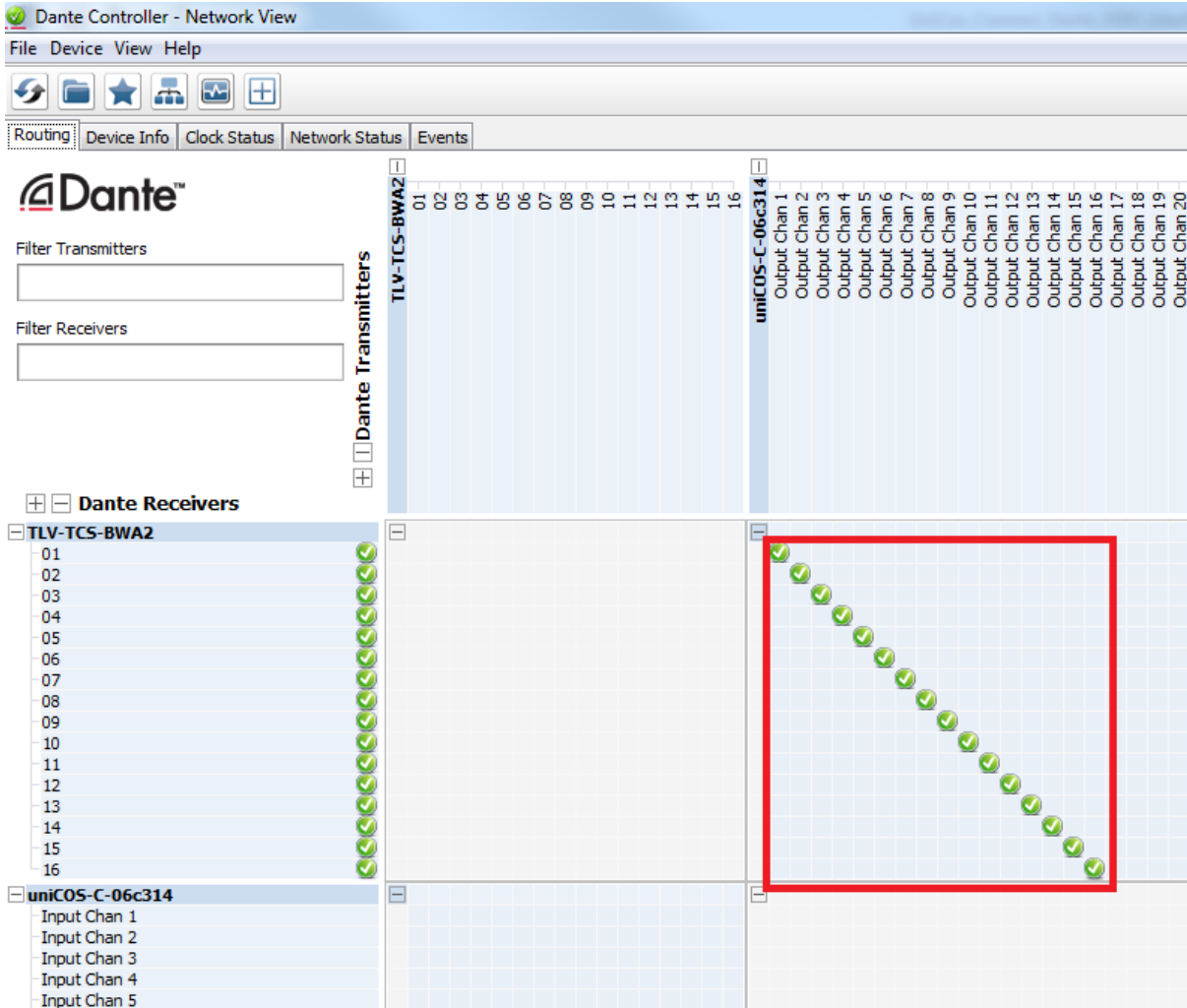
If you don't see the Dante interface, make sure you have the right network interface selected in the Dante Controller:



Note: If you see the message 'Another Dante process has locked the interface configuration.', just stop the Dante Virtual Soundcard and you will be able to change the network interface. Start the virtual soundcard again after you applied the changes.

If you still don't see both Dante devices, try disabling any antivirus and firewall software running on your computer.

Now make a connection between each desired output of the Dante interface and input of your Dante Virtual Soundcard. The result can look similar to this:



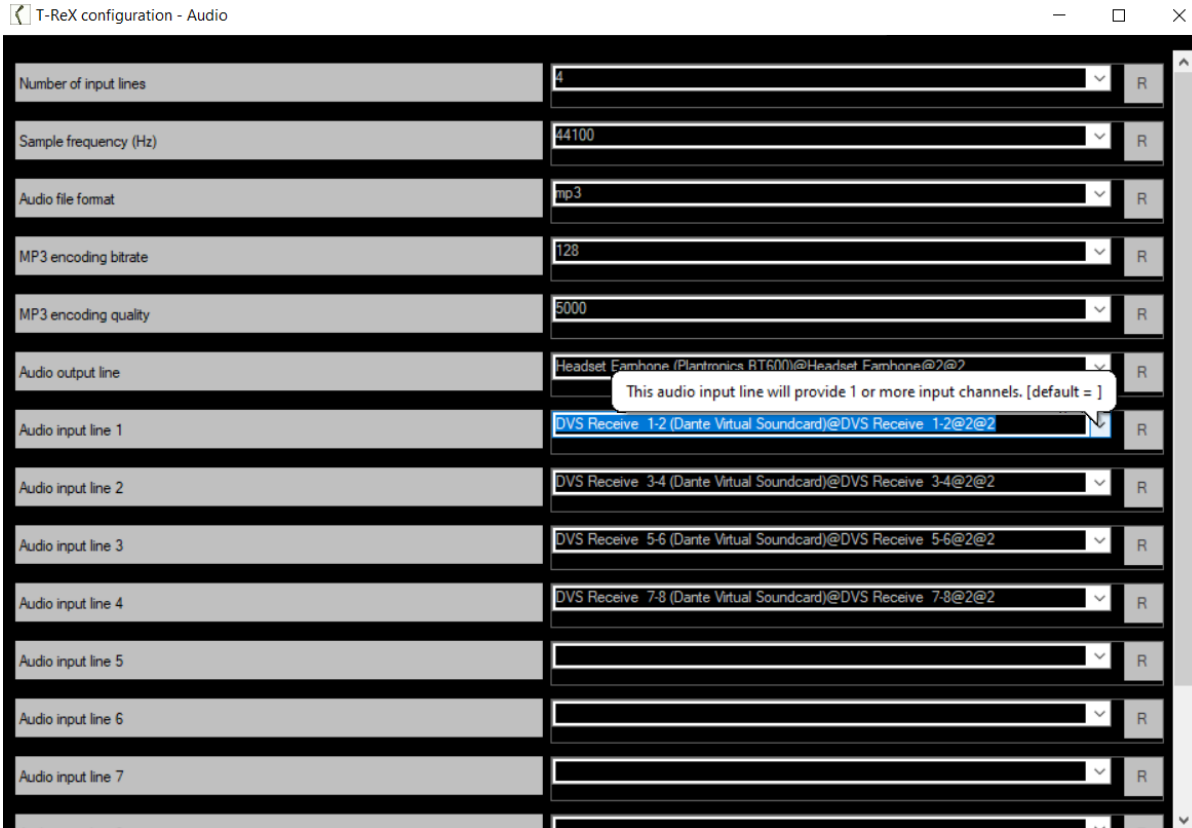
10.3. Step 3 – T-ReX Recorder

Start the T-ReX Recorder and open the audio configuration window. When choosing an audio input line, you should be able to select

'DVS Receive 1-2 (Dante Virtual Soundcard)@DVS Receive 1-2@2@2'

'DVS Receive 3-4 (Dante Virtual Soundcard)@DVS Receive 3-4@2@2'

etc



This is your Dante Virtual Soundcard, running in WDM mode (defined by '@2'), with 2 channels available (defined by '@2').