INSTALLER TPF-TOOLS-ADVANCED

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This is the extended TPF-TOOLS_v1.1b for macOS 10.14+

macOS "big sur" only Intel!

Important!

Make sure that you have installed JackOSX! Use the 'tpf-tool JackOSX*installer.command'. It can be downloaded here: download install*JackOSX

Use the installer 'JackOSX Installer.command' for this. If not, go to the download of 'install_JackOSX'. After the JackOSX installation, you have to restart your Macintosh. If all went well, you should now create an aggregate/main device in /Utilities/'Audio-Midi Setup'. How to do this is described here: https:/support.apple.comen-usHT202000.

The installer tpf-tool-advanced:

The tpf-tools-advanced bundle also contains the lower level bundles:

- tpf-basic –> https://github.com/joambi/tpf-tools-installers/releases/tag/tpf-basic-v.1.1-beta2
- tpf-intermediate –> https://github.com/joambi/tpf-tools-installers/releases/tag/v.1.1b It is therefore the heaviest of all available packages.

‚Advanced' stands for modularly structured application possibilities (simple to quite complex settings). The most important addition of ‚advanced' is the possibility of creating a 3D audio mix for headphones (binaural) as well as for loudspeakers (ambisonics). Detailed instructions can be found on this website:

https:/tpf-tools.postach.io/.

Audio and video are independent of each other. Ultragrid can but does not have to be used.

Download: https://github.com/joambi/tpf-tools-installers/releases/tag/v.1.1-beta2

The Installer installs the following components:

Applications:

- tpf-party.app   (v1.1-beta4)

- tpf-client.app (v1.1-beta5)

- Ardour6.6.app

- uv-qt.app (Ultragrid 1.6+)

Scripts:

- tpf-runner.command

- tpf-save-audio.command

- tpf-load-audio.command

Folders:

- tpf-settings

    – tpf-default.txt
    – tpf-basic.txt
    – tpf-intermediate.txt

- tpf-audio-connections

    – tpf-default.xml
    – tpf-basic.xml
    – tpf-intermediate.xml

- ardour-templates:

    – tpf-default.ardour
    – tpf-basic.ardour
    – tpf-intermediate.ardour

- tpf-ambi-presets:

    – single_source.xm
    – tpf-advanced-ambi-basic.xml
    – tpf-advanced-ambi-intermediate.xml
    – tpf-advanced-ambi-default.xml
    – tpf-advanced-ambi-stage-basic.xml
    – tpf-advanced-ambi-stage-default.xml
    – tpf-advanced-ambi-stage-intermediate.xml

- tpf-video-scripts:

    – video-runner-camera01.command
    – video-runner-camera02.command

- – video-selftest-camera01.command
  - – video-selftest-camera02.command
- • tpf-uninstallers:
  - – uninstaller-JackOSX.command
  - – uninstaller-tpf-tool.command
- • Ambisonics & Binaural Audio-Plug-Ins (free) installed in –> /Library/Audio/Plug-Ins
  - – ICST Ambisonics Plugins for ambisonics, see www.ambisonics.ch
  - – dearVR*AMBI*MICRO(free) for binaural rendering, see https://www.dearvr.com/products/dearvr-micro
  - – IEMPluginSuite_v1.11.1 for reverb, see: https://plugins.iem.at/
  - – Sennheiser AMBEO VR Mic A-B Converter for the use of the Sennheiser AMBEO microphone, see https://de-ch.sennheiser.com/ambeo-abconverter

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Install the tpf-tools-advanced:

1. download the DMG

2. open the DMG

3. open the folder 'installer-tpf-tools-advanced'

4. right-click the 'install-tpf-tools-advanced.command'

5. enter your admin-PW

6. follow the installer instructions.

Detailed information for installation and application can be found on this website: https:/tpf-tools.postach.io

tpf-templates introduction:

In the installed folder "tpf-intermediate" you will find the following "templates" for the DAW Ardour6.6.app.

Folder [ardour-templates]:

A part of the templates are identical to the templates in tpf-intermediate (see here: link). The 'tpf-advanced-ambi' templates are new. These allow an easy entry into the 3D-audio mixing of the tpf-session to the formats Binaural (only headphones) and Ambisonics (3D-audio with speakers). The following templates are available as examples: - tpf-advanced-ambi-basic.ardour - tpf-advanced-ambi-intermediate.ardour - tpf-advanced-ambi-default.ardour They correspond to the ICST Ambisonics Encoder VST3 plug-in presets of the same name (tpf-ambi-preset).

- • "ACE" is Ardour's own effects

Sources:

1. JackOSX.0.92*b3* *to /Applications/Jack* –> *https://ccrma.stanford.edu/software/jacktrip/osx/JackOS*

2. JMess to /usr/local/bin –> https://github.com/jacktrip/jmess-jack

3. Ardour.app –> https://ardour.org

4. Ultragrid –> http://www.ultragrid.cz

5. TPF-TOOLS –> https://gitlab.zhdk.ch/TPF

6. ICST*AmbiPlugins*2.1.0*osx.pkg* –> *https://bitbucket.org/christian*schweizer/icst-ambisonics-plugins/

7. IEMPluginSuite_v1.11.1 –> https://plugins.iem.at/

8. dearVR*AMBI*MICRO.pkg –> https://www.dearvr.com/products/ambi-micro

9. Sennheiser AMBEO VR Mic A-B Converter –> https://de-ch.sennheiser.com/ambeo-abconverter

About TPF-Client

tpf-client is a low-latency audio transmission software-based on the jacktrip protocol and built-in Pure Data.

It tries to overcome some limitations that are often encountered when using the traditional jacktrip commandline utility:

- None of the endpoints are required to have a public IP address. All clients can be behind a firewall.

- The tpf-client reduces complexity when configuring a session with many endpoints.

The client registers itself to a tpf-server which keeps track of the connected clients. Thus the clients learn about the other clients and establish a jacktrip audio connection to their peers either by routing the packets through the tpf-server or directly to the peer by employing a technique called UDP hole punching (https://en.wikipedia.org/wiki/UDP*hole*punching).

You can download the client from:

 https://gitlab.zhdk.ch/TPF/tpf-client

The client is pre-configured to connect to a tpf-server running on telematic.zhdk.ch (TCP-Port 3025) which is supposed to be running anytime in the area of Zurich, Switzerland. The tpf-server software can be found here:

 https://gitlab.zhdk.ch/TPF/tpf-server

Depending on the locations of the endpoints it is advised to run a server closer to one of the endpoints in order to keep transmission latency low.

Prerequisites

Make sure to get the latest Pure Data from:

  https://puredata.info/downloads/

You need the following externals to run tpf-client   * iemnet   * osc   * slip

You can install externals through the Pd menu: 'Help' -> 'Find Externals'

Running the client

To run the client, open the patch tpf-client in Pure Data. Typically, you run Pd with jack as audio backend, so that you can send audio from and to the tpf-client to other software. When running from the command- line, the recommended parameters are:

  pd -rt -jack -in channels 8 -out channels 65 -nojackconnect   -jackname tpf-client -open tpf-client/tpf-client.pd

Before connecting to the server, make sure to set a name in <Location> and all parameters. The parameters sr (sample rate) and bs (block size) must be the same for all clients. The first connecting client defines the values of those parameters for the session. After configuring those parameters the client can connect to the server by clicking the top left button. Blue indicates the connection is established. Red indicates that some errors occurred. Check the message for the reason. Reasons for connection failure include sample rate or name conflict (the configured name is already in use by someone else).

Once connected, other endpoints appear in one of the 8 rows. In order to establish audio trans- mission, either one side needs to initiate the connection by clicking the black square on the left and the other side has to confirm. A flashing button indicates the other side is waiting for confir- mation. Once the audio connection is established, the corresponding button turns blue and the numbered squares indicate the number of received channels and the level of each. The numbers on the channel indicators correspond with the numbers in the qjackctl connection dialog.

By double-clicking the left square, a request for a connection using UDP hole punching is sent. When confirmed, a direct transmission between endpoints without using the server as UDP proxy is established. However, this feature is considered experimental and can't be used in certain network environments.

Ready-to-use macOS app

If your computer runs macOS, you may download a self-contained application bundle from:

  https://gitlab.zhdk.ch/TPF/tpf-client/-/releases/

Bugs

* tpf-client crashes Pd when receiving a stream with 3 channels

For any bug, issue, or suggestion, please open an issue here.

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