SOUNDSHAPER MIX PAGE REFERENCE

INTRODUCTION

Soundshaper's Mix Page is a dedicated parameter page for the CDP **MIX** program (submix mix) and its multi-channel counterpart (newmix multichan). It also supports CDP **mixfile processes** such as **MIXSHUFFLE** and **TIMEWARP**.

MIX runs a standard mixfile – a text file which lists, for each soundfile:

- Start time – in seconds
- Number of channels: 1 or 2
- Level – per channel: 0-1
- Pan (optional) – per channel: -1.0 (left) to 0 (centre) to +1.0 (right)

These parameters are shown in the Mix Page's **Mix List**:

| Soundfile	Time	Chans	Level (1)	Pan (1)	Level (2)	Pan (2)
E:\SNDS\TMP\~A_0.wav	0.000	2	1.0	-1.0	1.0	1.0
E:\SNDS\TMP\B_1.wav	0.000	1	1.0	0		

In this example, ~A_0.wav is a stereo file with level and pan values for each channel. B_1.wav is mono.
Note that level and pan are not time-variable within the Mix program. (Soundshaper has a Premix function, in which time-varying level and pan may be set, prior to mixing.)

The muti-channel mix list is similar, but pan is replaced by a routing from a source channel to a destination channel (see **MchMix** below).

There are four entry points to the Mix Page, all from the Main Page's Edit/Mix Menu:

- **Mix:** Mix | Mix
- **MchMix:** Mix | Mch-Mix (multi-channel mix)
- **MixEdit:** Mixfile | Edit Mix (from grid)
- **MixCreate:** Mixfile | Create/Edit Mix (off-grid)
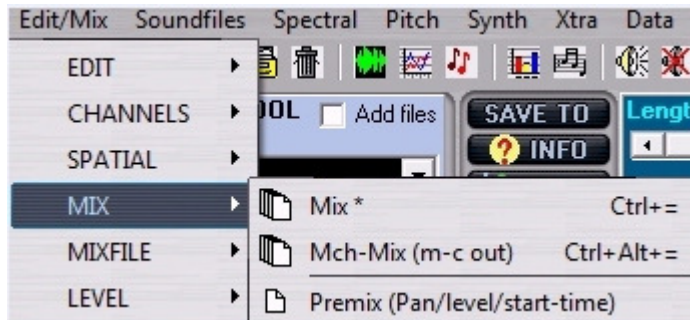
The multi-channel **MchMix** apart, the other three are very similar, with considerable fluidity between them on the Mix Page.

Mix Page Basics

- Select a cell on the Main Page and optionally click on cells for one or more secondary files.
  For **MixCreate** mode, start from an empty row.
- Select one of the Mix menu items, as listed above.
- Optionally select further sounds on the Mix Page, e.g. using **Add Soundfile**.
- Except in **Mix** mode (quick mix), add sounds to the Mix List, e.g. using the **Add to List** button.
- Optionally load a pre-existing mixfile to the Mix List.
- Adjust Mix Parameters using the controls provided.
  Update the equivalent Mix List item, if the Mix List is visible.
- Click the **MIX** button to run the mix, optionally saving it as a mixfile.

MIX: quick mix mode

Mix is intended as a "quick mix" mode to mix a number of cells on the patchgrid. CDP's **MIX** program offers more flexibility than other CDP mixing programs (such as Merge, Mergemany, Balance etc.)

A typical application might follow Spectral **SLICE**, which splits the spectrum into separate files, each of which might then be transposed or frequency-shifted differently; the outputs, on different processing rows, might then be combined by mixing them together.

On the Main Page:

- Start from any soundfile cell (M or S, not M-C).
- Select Mix | Mix (shortcut Ctrl +): the secondary input panel (red) opens.
- Click on any other cell(s) for further soundfiles (M, S, or M-C*) and click OK when finished
  OR just click OK and select further soundfiles on the Mix Page.
  (* M-C files will be limited to Chans 1 and 2 on the Mix Page.)

On the Mix Page:
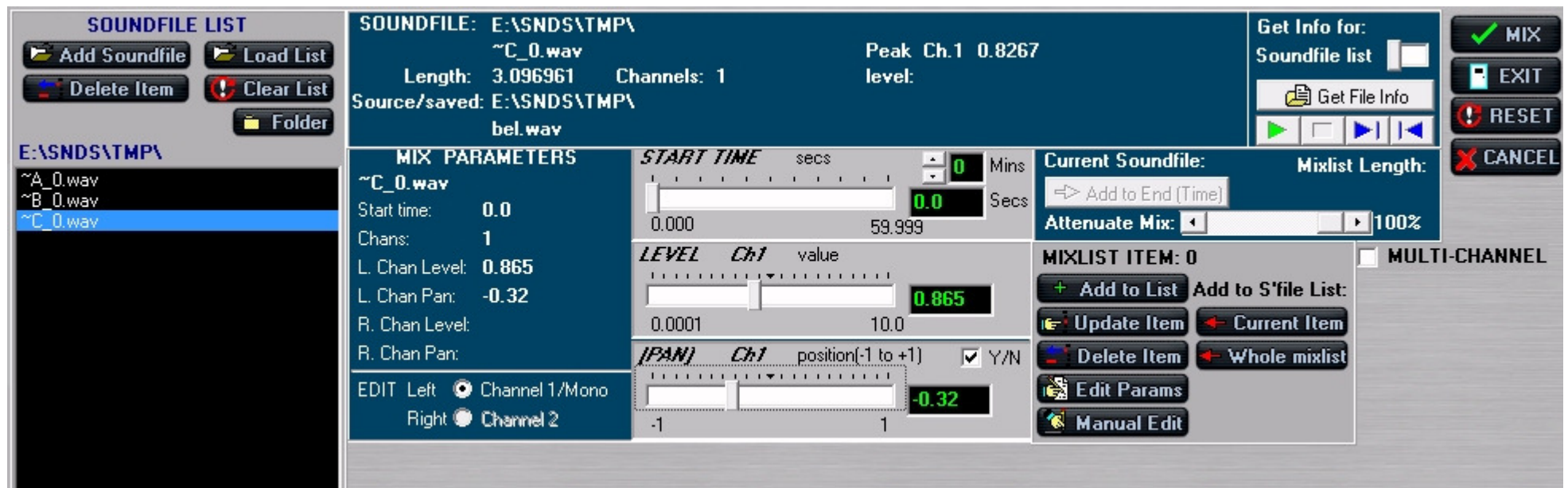
The screenshot above shows the active part of the Mix Page:

- The sounds are listed on the left in the **Soundfile List**.
- Information about the current soundfile is given at the top, together with sound player controls.
- Controls for the sound's **Mix Parameters** are in the middle.
  Each item in the Soundfile List is associated with one set of mix parameters, which it remembers.

Adjust parameter values as required, returning to them as necessary.
- In Mix mode, the **Mix List** is not shown: a panel of Mix List buttons and a Multi-channel checkbox are visible, but not relevant.

To run the Mix, click the **MIX** button. Back on the Main page, you can double-click the cell to re-edit the mix parameters if the mix is unsatisfactory.

Soundfile List

The Soundfile List is common to all Mix-page "modes" and displays the currently selected soundfiles.
The list is restricted to 64 items at present.

- To add a sound to the list, click the **Add Soundfile** button, or use the File Menu Add Soundfile (CTRL+O).
  This can be a sound from any folder (not necessarily a temp. one).
- To load a previously saved list of sounds, click **Load List** (also available in the File menu) .
  The list would normally have been collected using the File Pool on the Main Page, and saved to [User-Folder]\POOL. (A Pool list is just a text file of soundfiles. The File Pool panel has provision to load all the soundfiles in a folder and save them to a pool list.)
- To remove an item, select it and click **Delete Item** (also available in the Soundfile List menu).
- To clear the list, click **Clear List** (also available in the Soundfile List menu).
- The **Folder** button selects the current folder for choosing soundfiles. Initially this is set to any Project Folder saved in Settings, failing which the TEMP folder.

- Each sound in the list is shown at the top of the page, together with its channel-count, length, max. level (per channel, limited to 8 chans.) and a player.
- For temporary files selected on the Main Page, any associated permanent file is also shown at the top of the page. If the cell's file has been saved, or is a source cell (e.g. ~A_0), its permanent filename is shown. Otherwise, its row's source filename is shown, followed by an asterisk (indicating a transformed source).
- Alternatively, you can display a list of all the soundfiles' sources or saved filenames.
  Select: Menu Soundfile List | Show Source/Saved Files (or ALT+\). The paths are not shown.

Mix Parameters

Each item in the Soundfile List is associated with ONE set of **Mix Parameters**, which can be adjusted:

- Start Time
- Level (Chan. 1)
- Pan (Chan. 1)

- Level (Chan. 2) – select radio button for Chan. 2 (stereo file only)
- Pan (Chan. 2)

These are the main parameters used by MIX. An overall gain parameter may also be set using the Attenuate Mix fader.
You can review and adjust any set of parameter values before mixing, by clicking on the soundfile in the list.
Initial values are set to: Start 0.0, Level(s) 1.0, Pan(s) 0.0.
Note that setting Pan is optional: to deselect it, uncheck the Y/N checkbox.

Run the Mix

When you have adjusted parameters, click the **MIX** button to return to the Main Page.
At this point, you are invited to save the mix to a permanent CDP mixfile (*.mix), if you wish.
Soundshaper will create and run a temporary mixfile in any case, corresponding to the return cell (e.g. ~A_1.mix for ~A_1.wav).

Re-editing the Mix

You can re-edit the return cell at any time by double-clicking on the cell. Soundshaper loads and displays the temporary mixfile contents, in effect switching into MixEdit mode (see below).

Switching to MixEdit or MchMix

- **MchMix:** if you decide to make the output multi-channel, click the Multi-channel checkbox. (See **MchMix below.**)
- **MixEdit:** if you want to work with a Mix List, either:
    - select a sound in the Soundfile list and click the **Add To List** button
      OR
    - select menu item Soundfile List | Add to Mix List (Ctrl+Alt+L) (duplicated in Mix List menu: Add Soundfile List to Mix) – this transfers all soundfiles and their parameters to the Mix List, which opens.
      OR
    - open a previously saved mixfile: Open Mixfile button (or File | Open Mixfile).

   For further guidance, see **MixEdit** below.

One typical application, illustrating the use of a Mix List/Mixfile, is echoing a single soundfile at different times and levels/pan. To do this, select the soundfile, click **Add To List**. Re-select the sound (as necessary), adjust the parameters and again click **Add To List**. When finished, click **MIX** to return to the Main Page.

MIXEDIT: edit Mix List / Mixfile

On the Main Page:

- Select any soundfile cell (M or S, not M-C).
- Select menu: Mixfile | Edit Mix (from grid).
- Optionally click on any other cell(s) for further soundfiles (M, S or M-C). Further sounds may be added on the Mix Page.
- Click OK to move to the Mix Page.

On the Mix Page:

In **MixEdit** mode, you add sounds to a **Mix List** and manipulate them there. The mode is also used to create a mixfile or to edit and run a pre-saved mixfile. It is virtually identical to **MixCreate**, except that the latter starts from an empty row (in effect "off-grid"), involving no existing patchgrid cells, whereas this option assumes you might want to incorporate the current cell into the mix (though you do not have to).

At all times, on the Mix Page (apart from Multi-channel mode), the MIX button operates as follows:

- If the Mix List is invisible or empty, a temporary mixfile is made and run from the sounds in the Soundfile List and their Mix Parameters (see **Mix** above).
- Otherwise, a temporary mixfile is made and run from the contents of the Mix List.

- The mixed output is always a stereo file, unless pan values are not specified.

Mix List

```
Soundfile                              Time      Chans  Level (1)  Pan (1)  Level (2)  Pan (2)
E:\SNDS\TMP\~A_0.wav                   0.000     2      1.0        -1.0     1.0        1.0
E:\SNDS\TMP\B_1.wav                    0.000     1      1.0         0
```

- A blank Mix List is shown initially. Each line of the Mix List displays one line of a mixfile or what might later be saved or run as a mixfile.
  The main distinction between **MixEdit** and a simple **Mix** is the presence of the Mix List.
- In the Mix List, soundfiles are listed in the left portion and their corresponding parameters are in the right portion.
- To select an item, click on the soundfile name (left portion). To select only the parameters, click on the right portion.
- Sounds may be loaded to the Soundfile List, as in **Mix** mode, or a list of sounds may be loaded.
  To add a sound in the Soundfile List to the Mix List, click the **Add To List** button (also in menu Mix List | Add Item).
  The sound is listed, together with its Mix parameter values.
- To add all sounds in the Soundfile List and their mix parameters to the Mix List, select menu item Soundfile List | Add to Mix List (Ctrl+Alt+L) (duplicated in Mix List menu: Add Soundfile List to Mix)

- To play a sound in the Mix List, or see its levels, add it to Soundfile List: click the **Current Item** button below the heading "Add to S'file List".
  Similarly, to add the whole Mix List to the Soundfile List, click the button **Whole Mixlist**. (Note the limit of 64 items in the Soundfile List.)
- For both of these, there is an option in the Soundfile List menu called "Allow Duplicates". By default this is *unchecked*; if the sound to be transferred is already in the Soundfile List, it is highlighted. If "Allow Duplicates" has been checked, the Mix List item is added to the Soundfile List "as is". This might be useful where the same sound appears in the Mix List several times, but with different parameters.
- To *replace* the Soundfile List with all the files in the Mix List and their parameters, click the button **Replace with Mix List** in the Soundfiles List panel (also in Mix List menu | Mix List to Soundfile List). (The Replace button is not visible in **Mix** mode.)

Mixfiles

- To load an existing mixfile to the Mix List, click the Mixfile **OPEN** button (or File | Open Mixfile).
  The name of the opened mixfile is displayed in the cherry-coloured box beneath the mix buttons.
  The contents of the file are displayed in the Mix List, replacing any previous list.
- To save the Mix List to a mixfile, click the Mixfile **SAVE** button (or File | Save Mixfile As...).
  There is also a file menu item **Mixfile Save**, for overwriting the currently saved mixfile.
- The Mixfile folder for both Load and Save defaults to [User-folder]\MIX.
  Click the Mixfile **FOLDER** button (or File | Mixfiles Folder CTRL+D) to set this to your own preferred
  folder.
- Note that a Mix List /mixfile containing temporary files will not run properly in CDP unless these files
  actually exist on the patchgrid, with the same channel-count.
  However, in a mixfile referring to e.g. ~A_0.wav and ~B_0.wav, these files act as "wildcards" for any
  current ~A_0.wav and ~B_0.wav (assuming channel counts match). Such mixfiles could be useful as
  templates for further mixes using different sounds, but preserving the same start times or panning (for
  example).

Editing the Mix List

Mix List Buttons:

- **Add to List**: adds the currently highlighted item in the Soundfile List to the Mix List (as discussed
  above).
- **Delete Item**: remove the selected item from the Mix List.
- **Update Item**: match the sound in the Mix List with one in the Soundfile List. Adjust the Mix parameters
  and click **Update Item**.
- **Edit Parameters**: the Mix Parameter values are transferred to the faders. Adjust the value(s) and click
  Update Item.
  NB: These parameter values are not intended to be associated with any particular sound in the Soundfile
  List; however in practice they are matched with the currently highlighted sound in that list and replace

its stored values. (Better practice might be to send the Mix List item to the Soundfile List.)
- **Manual Edit**: the mix parameters are displayed in a text edit box. Edit these, leaving a gap between each value, and click **CLOSE** (or ESC key).
- **Start-times**: sounds in the Mix List (or a CDP mixfile) do not need to be in the correct start-time order.

Get File Info button

- Clicking this displays the CDP properties for the currently selected soundfile (in the Soundfile List). The corresponding menu item is Soundfile List | Show Soundfile Data (shortcut key: F3).
- Alternatively, the data for the currently selected sound in the Mix List (e.g. loaded from a mixfile) can be displayed. The corresponding menu item is Mix List | Show Soundfile Data (shortcut key: F4).
- To switch between these two display types, use the switch provided above the button – left: Soundfile List (default); right: Mix List.
- To Close the CDP Report Window, click the **CLOSE** button which appears (or ESC key). (It is not necessary to click CLOSE before another data request.)

Add To End button

It is possible to lay sounds end to end with the **Add To End** button.

- Select a sound in the Soundfile List.
- Click the **AddToEnd** button – this updates the mixfile total length.
- Click the **Add to List** button.
- Repeat as required.

Get Level

You can get the overall level of a mixfile you have loaded, or a mix list prior to mixing. (In the latter case, a temporary dummy mixfile is created.)

- Select menu: Process Mixfile | Get Level (Alt+L)

- A warning to save changes may appear. You can mostly click Ignore (especially for the dummy mixfile).
- A parameter page for **MIXGETLEVEL** (CDP: submix getlevel) appears. Select appropriate values and click OK.
- Back on the Mix Page, a report window shows the level of normalisation that would lift the sound to full volume. Click CLOSE to close the window (or ESC key).

Attenuate the Mix

Attenuate Mix fader:

- To run the mix with reduced level, set the fader to a level below 100%.
  A level of 100% means original levels, added together, which can produce a sound that clips.

Attenuate – mixfile only:

- Select menu: Process Mixfile | Attenuate/Gain
- Enter a new mixfile name in the Outfile box, as prompted.
- Click the **Process** button (Mix button renamed).
- On the Parameter Page, select appropriate values, including an option to increase the gain.
- Back on the Mix Page, the levels should all be altered.

Run the Mix (MixEdit)

When you are satisfied with the sounds and values in the Mix List, click the **MIX** button to run the mix and return it to the Patchgrid.
As in **Mix** mode, you are invited to save the mix to a permanent mixfile. (You may have done so already.)
Note that you could return a mix that did not include the sound in the preceding cell. Though illogical, this is not prevented. Alternatively, you might save the mix to a mixfile, run **MixCreate** (see below) and re-open the mixfile.

MIXCREATE

This "mode" is identical to **MixEdit**, except that it can be regarded as "off-grid", as no cells are selected on the Patchgrid.

On the Main Page:

- On the Patchgrid, select an **empty row**.
- Select menu: Mixfile | Create/Edit Mix (CTRL+ALT+M).
- The Mix Page appears, with no soundfiles selected and a blank Mix List.

On the Mix Page:

- All operations are the same as described in **MixEdit** above (or **Mix**, as appropriate).
- Save a Mix List to a mixfile and click **EXIT** or **CANCEL** to leave the page
  OR:
- click **MIX** to run the mix. The mixed sound is returned to the row's column 0, like a synth.
  process. The cell can be re-edited by double-clicking on it.
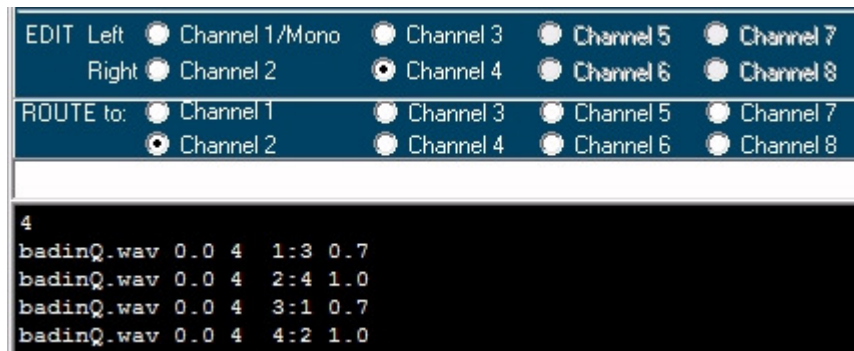
MCHMIX: multi-channel mix

CDP has a dedicated program for mixing Mono/Stereo or Multi-channel files (newmix multichan), with its own file format. CDP supports up to 16 channels, but the Mix Page is restricted to 8. (For present purposes, a multi-channel file is one of 3-16 channels.)

On the Main Page:

- Load one or more M/S/M-C soundfiles on to the patchgrid (if not already there).
- From an occupied soundfile cell, select menu: Mix | Mch-Mix.
- Optionally select secondary files as required by clicking on their cells (M/S/M-C).
- Further sounds may be selected on the Mix Page (see **Soundfile List** above).

Note: if the main cell contains a multichannel sound, Soundshaper automatically selects **MchMix** mode. This does not apply to secondary files and files added on the Mix Page.

On the Mix Page:

- An empty multichannel mix list is displayed initially. This is a text memo (like Notepad) which you can edit as required.
- The **Multi-Channel checkbox** is checked.
  Note that you can switch to **MchMix** from any other "mode" just by checking this checkbox.
- A **MULTI-CHAN MIX** panel is displayed instead of Mix List Buttons.
- The mix parameters are limited to Start and Level.
- Pan is replaced by channel routing: from source channel (top two rows) to output channel (bottom two).

- In the **MULTI-CHAN MIX** panel, select the number of output channels required (**Out Chans**). This number will be put at the top of the mix list. You can alter it by re-typing if you change your mind.
- Choose a soundfile from the Soundfile List.
- Select one of its channels in the **EDIT** section of the channel routing buttons (non-existent channels cannot be selected).
- Select a destination channel in the **ROUTE TO** section of the channel routing buttons. Do not exceed the number of **Out Chans**, otherwise the mix will fail.
- Set a Start Time and a Level.
- In the MULTI-CHAN MIX panel, click **1. Add Params**.
  This creates a parameter text string in an edit box above the mix list, which you can edit

manually as required.
- In the MULTI-CHAN MIX panel, click **2. Insert in Mix**.
  The parameter string is added to the list, together with Out Chans if it is the first to be added.
- Repeat as required with other channels from the same sound, or with those from other sounds.
- If you make a mistake, delete the line and repeat the operation. Alternatively, click **CLEAR LIST**.
- When finished, click **MIX** to return the mix to the Main Page.
- As in other modes, you are invited to save the mix to a permanent mixfile (*.mmx).
- You can load a previously saved .mmx mixfile and add to it from the Soundfile List.

MIXFILE PROCESSING

CDP has a number of functions which operate on (standard) mixfiles. These are available on the Mix Page (except **ATSTEP**). The Mix List must be visible (i.e. not simple **MIX** mode or multi-channel **MCHMIX** mode).

On the Mix Page:

- Open a mixfile using the Open button or File menu.
- Select the function from the Process Mixfile menu.
  A mixfile-out edit box appears (using the same folder as the opened mixfile).
- Type a file name in the edit box (the suffix .mix is supplied).
- Click the **Process** button (Mix button renamed).
  A parameter page for the process opens.
- On the parameter page, select mode and adjust parameter values. Click OK.
  N.B. the function will not run successfully if any soundfile in the mixfile/list does not exist. Be especially careful of any temp. files listed in the mixfile/list.
- The processed mixfile is displayed in the Mix List (unless **Display after Process** has been unchecked in the Process Mixfile menu.)
- To cancel a process before hitting the PROCESS button, select **CANCEL PROCESS** in the Process Mixfile menu (Shortcut key: ESC).
- To cancel a process from its Parameter page, hit its **Cancel** button, then select **CANCEL PROCESS** in the Process Mixfile menu.
- The processed mixfile may be run by clicking MIX as usual.
  The mix is returned to the next cell on the patchgrid, or column 0 if in **MixCreate** mode.

Main Page Mixfile Processes

The same processes are also available from the Main Page. (The Mix Page is not involved in these operations.)

- Select the Spare File slot.
- Load a mixfile. This can be displayed from the Spare File panel: click 4th button from left.
- Select a process from the Mixfile menu and run it. The processed mixfile is auto-named and replaces that in Spare File.

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