

ControlPilot

A HUD Overlay for RME TotalMix FX's Control Room.

Changes in RME TotalMix FX's Control Room are usually only necessary occasionally, while you work with your main app, a DAW for example.

ControlPilot aims to minimize screen space used for TotalMix's Control Room, while having all important settings visible and focused.

Its floating 'HUD' Overlay blends in effortlessly with your main focus area, without workflow interruption.

ControlPilot's volume display is a very useful addition, also when working with RME ARC USB.

Additionally, ControlPilot can automate Talkback and Mute-Groups linked to your DAW Transport.

ControlPilot does not try to replace TotalMix's full feature set, instead, it is focused at streamlining Control Room's features.

Before starting, backup your current RME TotalMix settings in a workspace and a snapshot file, so you can always revert to a known baseline.

RME TotalMix FX is a quite complex audio mixing & routing environment, so be sure to familiarize yourself with its functions *before* using ControlPilot.

Functions Overview:

- ControlPilot is a **menu bar utility** and has 3 functional units that can be used, independently or all at once:
 - i. **The HUD Overlay:** View changes in Control Room's settings in a convenient, screen-saving HUD. Transparent and temporary, the keyboard focus stays in your main app.
 - ii. **Keyboard Shortcuts:** Operate Control Room buttons and volume controls from assignable, global shortcuts.
 - iii. **Automations: Auto-Talk:** Switch Talkback on and off following the MIDI transport state of your DAW of choice. **Auto-Mute:** control Mute Groups.
- A **Basic Setup** is a necessary work for you in RME TotalMix FX app, ensuring the OSC Network communication works between the two apps.
- Many other app settings are done through the **Menu bar drop-down window**. Left-click ControlPilot's Menu bar icon to open this window; Right-click to enter **Setup Mode** for the HUD Overlay.

Basic Setup Communication with TotalMix FX app__:

Before using ControlPilot, you need to make sure it sees and controls TotalMix. To do this, ControlPilot uses "**OSC**" (*Open Sound Control*), a network communication protocol.

- Open in Finder > Applications > TotalMix FX.
- Checkmark menu Options > Enable OSC Control.
- Select menu Options > Settings, then select the OSC tab, then:
 - Select Controller "1"
 - Checkmark "In Use"
 - Set Port (incoming) to "7001"
 - Set Port (outgoing) to "9001"
 - Set Remote Controller Address: Host to "localhost"
- Optional: Menu Options > Submix linked to OSC Controller > select "1". This enables 'Volume Focus' when clicking into TotalMix Mixer's submixes.
- Optional: If you are planning to use MuteGroups, set up Controller "2" with a second pair of ports, e.g. 7002 / 9002

Most people with standard configurations can now just dive in and start using ControlPilot!

- *Known issue: ControlPilot has an optional Bonjour service. This can be used to get Remote Controller Address and Port (outgoing) into TotalMix. However, after each system reboot, you will need to re-enable OSC in TotalMix. For this reason, I recommend to set host address and port manually.*
- *Known issue: Bonjour service name "yourComputerName.local." may not work in macOS Big Sur. Use 'localhost'.*
- *Known issue: If the 'TotalMix' section status icon is red but correct network settings are correct, try this: In TotalMix, toggle menu Options > Enable OSC Control off and on again. If that doesn't help, quit and re-open both TotalMix and ControlPilot apps.*

Settings (menu bar dropdown)

- **Overlay:** You can choose not to use the HUD Overlay at all, or use 'Pin' to have it visible at all times.
- **Launch at login:** the app will launch and close with TotalMix. (Recommended)
- **Reset:** Choose to reset settings, shortcuts or all.

HUD Overlay settings:

- Right-click the menu bar icon to enter **Setup Mode**. Possible settings are:
 - **Window position:** drag window to desired screen position.
 - **Vertical / Horizontal / Compact:** Toggles between those 3 view layouts. Compact is the most condensed layout, but has only one indicator for the currently selected Mute Group and doesn't have indicators for Phones 3&4 and the remaining Mute Groups. Compact also displays indicators only while they are activated.
 - **Timeout:** ranges from 0,5 to 6 sec. De-select timeout checkbox for a permanent "pinned" HUD Overlay, indicated by a pin symbol on the Overlay.
 - **Opacity:** ranges from 40 to 100%. (Opacity is the opposite of transparency.)
 - **Background:** ranges from 0 to 100%. HUD background color strength.
 - **Hover opacity:** ranges from 0 to 100 %, is the lowered opacity while the mouse pointer hovers over the Overlay.
 - **Volume Focus:** When it's OFF, volume bar only statically toggles Main and Speaker B. When it's ON, incoming submix volume changes will be temporarily displayed.
 - **Hold time:** ranges from 0,2 to 6 sec or infinite. Incoming volume changes of all submixes will be directed to the Volume Bar. Volume Bar switches back to Main after defined time. Toggle off Hold Time to keep last changed volume in the Volume Bar.
 - **Show Talkback / Ext In / Mute FX / Mute Groups:** If you don't need to see one or more of them, hide their indicators individually.
 - **NEW Show Cue:** ControlPilot now displays the Cue'ed channel.
- **Dismiss Setup Mode:** Click the red button, right-click the menu bar icon.
- If you don't need the HUD Overlay at all, de-select the "Overlay" checkbox in the Menu bar window.
- If you want to see the HUD Overlay permanently, select "Pin Overlay" in the Menu bar window.

Keyboard Shortcuts

- All shortcuts are global, i.e. working system-wide across all apps.
- **Assign:** Click in "Record Shortcut" field, then push a key combination of your choice.
- **Delete:** Click the cross icon.
- An extra shortcut for permanent HUD Overlay ("Pin") is available.
- **Use Shortcuts:** Toggle on and off the whole set of assigned shortcuts.
- By Default, "Mute" shortcut mutes both Main and SpeakerB. In TotalMix, the 'Link' button of Speaker links only volume but not mute of both outputs. We think this is an omission and try to correct this, however, if you want it un-linked, you can do it here (or do same in Popover > TotalMix > Custom Channel Names).
- You can use the "Main Recall" shortcut to recall the volume reference value set in TotalMix. The red volume indicator triangle on the volume bar defaults to 0 dB, but it will remember your recall value after using Recall for the first time. However, you can not store a new Recall value with ControlPilot. Instead, use TotalMix > Options > Setting > General: "Recall".
- The shortcut engine blocks keys, if they are conflicting with system-shortcuts.

- ControlPilot's shortcuts in most cases override program-specific shortcuts.

Automations

Auto-Talk and Auto-Mute

Automations follow DAW Transport state (Stop / Play / Record). To send DAW Transport state to ControlPilot, supported types are:

1. MIDI Clock ("Beat Clock" / "System Real Time Messages"): works fine for STOP and PLAY
2. MIDI Timecode: works fine for STOP and PLAY
3. M-Audio Keyboard ('DirectLink/HyperControl'): works best, because it also transmits RECORD state.

Check if your DAW supports M-Audio HyperControl. Pro-Tools has native support. For Live, Logic, Cubase, GarageBand see [here](https://inmusicbrands.force.com/maudio/s/article/Axiom-AIR-Series-HyperControl):

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- Avoid sending more than one transport type at a time. Do not send any other MIDI data on the same Bus.

Setup M-Audio DirectLink/HyperControl in Pro-Tools:

- In Pro Tools: Choose Setup > MIDI > Input Devices: Checkmark "Control Pilot Out"
- In Pro Tools: Choose Setup > Peripherals > MIDI Controllers:
 - Choose Type: "M-Audio Keyboard", Receive: "Control Pilot Out", Send: "Control Pilot In", Chs: "8"
- *Known issue in macOS Big Sur (not in Catalina or Monterey): M-Audio protocol stops working after ControlPilot restart. You have to set it up again in Pro Tools > Peripherals or restart Pro Tools*

Setup other DAW Transport mechanisms for various DAWs:

- In Pro Tools: Choose Setup > MIDI > MIDI Beat Clock: Checkmark "ControlPilot In"
- In Logic Pro: Choose Settings > Synchronisation > MIDI: Tick "Clock" box for "ControlPilot In" and clock mode to "Song - SPP at Play Start and Stop/SPP/Continue at Cycle Jump"
- In Ableton Live: In Live, open Preferences > Link MIDI. Then: Activate the "Sync" switch for the MIDI Output "ControlPilot In".
- In Studio One: In the ToolBar, select Options, click External Devices and select the MIDI Device Output "ControlPilot In" and click Edit, then check: "Use MIDI Clock Start"
- In Reaper: Choose Settings > Audio > MIDI Devices: Set MIDI Output "ControlPilot In" to "Enabled+Clock"
- In DaVinci Resolve: Use a Timecode Track.
- For other DAWs, you have to either send MIDI Time Code or MIDI Clock. Do not combine those methods. Do not send any other MIDI data on the same Bus.
- If no type was detected, MIDI Transport field will show "none". If it was detected but stopped to receive, it shows "lost".

1. Auto-Talk (Talkback follows DAW Transport):

- A frame around the Talkback Button indicates that Auto-Talk is on. White is for Stop, Green for Playback or Record.
- When Auto-Talk is On, you can also override manually (i.e. with a Talkback Shortcut, from ARC or from TotalMix window). That state will remain until the next Stop or Playback/Record operation.
- Talkback is a 'sticky' control. It means that while Talkback is active, the HUD Overlay is shown. A lighter gray pin icon in the upper left corner shows this temporary "Pinned" state.

2. Auto-Mute while STOP/PLAY/RECORD:

- Choose a TotalMix mute group that will be activated while DAW is in the selected transport state(s). Use any combination of states.
- Useful for certain recording / monitoring setups. i.e., this can facilitate a near-zero latency for talent monitoring.
Setup:
To use Auto-Mute, you need to set up a second OSC controller with TotalMix
- In 'OSC Network Settings', checkmark 'Use MuteGroups'. There are two ports (incoming/outgoing) they need to have the same values as Controller in TotalMix, e.g. 7002 / 9002.
- In TotalMix menu Options > Settings, select tab OSC:
 - Select Controller "2"
 - Checkmark "In Use"
 - Set Port (incoming) to "7002"
 - Set Port (outgoing) to "9002"

Custom Listenback

- Define a Mute Group as 'Custom Listenback' to display its ON state in orange to mark your listenback channel(s). Operation applies to both manual or automatic mute group switching. It is merely a different coloring for that Mute Group indicator. This is independent of the Listenback function provided by TotalMix.

Advanced Control Room Assignments:

<https://felixrost.de/advanced-assignments/>

- ControlPilot adapts dynamically to all assigned Control Room channels that are on the bank of first 8 channel pairs, for example "Main" on Out 1/2, "Speaker B" on Out 3/4, "Phones 2" on Out 5/6 and "Phones 1" on Out 7/8.
- If you have output channel pair numbers that are higher than 8, you need to hide the un-assigned channels in-between:
 - In TotalMix, go to menu Options > "Channel Layout", click "Outputs", select the channels to hide and select "Hide channels" in "OSC Remote 1" checkbox. Exclude as many channels as you need to fit your control room channels into the bank of 8. This setting is per each controller and does only affect the data that TotalMix send to ControlPilot.
NEW in ControlPilot 1.1.0 (with TotalMix 1.80b1 +) in version 1.1.0: Channel Assignments were improved to be more flexible and reliable. In TotalMix OSC settings, you may choose a higher "Number of faders per bank" than 8 if you need to. Remember though that keeping the bank small and hiding channels will keep the app's performance at its best. **You may have to reassign your Control Room channels.**
- If additionally, you have user-named channels, you need to use Custom Channel Names option "assign manually":
 - Select each appropriate default Control Room name from ControlPilot's "Custom Channel Names" picker menu. If Channel assignments are incorrect, channel mutes and volumes may not work as expected.
- If you changed Control Room assignments while running ControlPilot, it is best to restart TotalMix and ControlPilot to have all values updates. For the same reason, avoid accidentally changing assignments while recalling snapshots. You can set in TotalMix's Preferences "Snapshots: Do not load" to "Control Room" to avoid this.

Multichannel:

- Usability for multichannel setups is limited by TotalMix's design. Create a Fader group for Main plus all other output channels of your speaker set. This fader group will also follow DIM. Then you can create a Mute Group for the same channels and control it with the Mute Group shortcut.

Good to know:

- **Global Mute:** While GlobalMute is OFF, all Mute buttons are greyed out and have a blue frame to show their inactivity. We recommend having Global Mute ON all the time, there is no good control over what it does.
- Not all TotalMix Control Room controls are implemented, among them are all Channel Pans, Phase and FX settings like : Eq/Dyn/AutoLevel ...

- Multi Interface configurations are not implemented.
- The states of Mute and Solo *Groups* are not reflected onto the single channels in RME's OSC implementation and thus their usage can lead to wrongly displayed values in ControlPilot's channel mutes.
- In TotalMix settings, **don't** select "Send Level Data"! It will send unnecessary data and can compromise performance.
- **NEW in ControlPilot 1.1.0 (with TotalMix 1.80b1 +)** Channel Assignments were improved to be more flexible and reliable. In TotalMix OSC settings, you may choose a higher "Number of faders per bank" than 8 if you need to. Remember though that keeping it low will improve the app's performance. **You may have to reassign your Control Room channels.**
- Recommended for large fader banks: Menu Options > Submix linked to OSC Controller > DE-select "1". (Improves performance)
- ControlPilot's internal database depends on a channel assigned to "Main Out". Without this, results may be incomplete or unexpected.
- **NEW in ControlPilot 1.1.0 (with TotalMix 1.80b1 +)** CUE: While ControlPilot can now display Cue and the Channel that is cued, and also assign 2 shortcut to cue defined channel, it is not possible for ControlPilot to identify a change in Cue target channel. This channel is set in TotalMix mixer > Control Room > Assign > Cue/PFL to > ... If you want an updated Cue target display in ControlPilot, re-launch TotalMix, then re-launch ControlPilot. An active Cue turns the HUD Overlay temporarily pinned.
- When experiencing unexpected behavior or not updating display values, it can help to quit ControlPilot and TotalMix.app, then open both again. ControlPilot uses some of TotalMix's stored settings as additional info.

If you have questions, problems, find bugs, have suggestions or requests, use the app's internal "Email support" button in the "About" tab. If this is not possible, please contact: support@felixrost.de.

More info can be found on my website:

<https://felixrost.de>