Tangerine Automation Interface

TANGERINE AUTOMATION INTERFACE

SSL 9000 J/K SETUP & USER GUIDE

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Table Of Contents

1 System Overview 1
1.1 Hardware Overview 1
1.2 Software Overview 2
1.3 Plug-In Overview 3
1.4 Overview of Workflows 3

2 Interface Installation & Set-Up 4
2.1 General Instructions and Information 4
2.2 Injektor Software Suite Installation 5
2.3 Master Motherboard (TAI-MMB) Installation 5
2.4 TAI sub-Motherboard (TAI-SMB) Installation 9
2.5 Installation Finalization 12
2.6 Interface Configuration 12
2.7 Recommended Power On Sequence for General Operation 12

3 DAW Set-up 13
3.1 Pro Tools Setup for INJEKTOR Workflows 13
3.2 Logic Pro X Setup for INJEKTOR Workflows 13

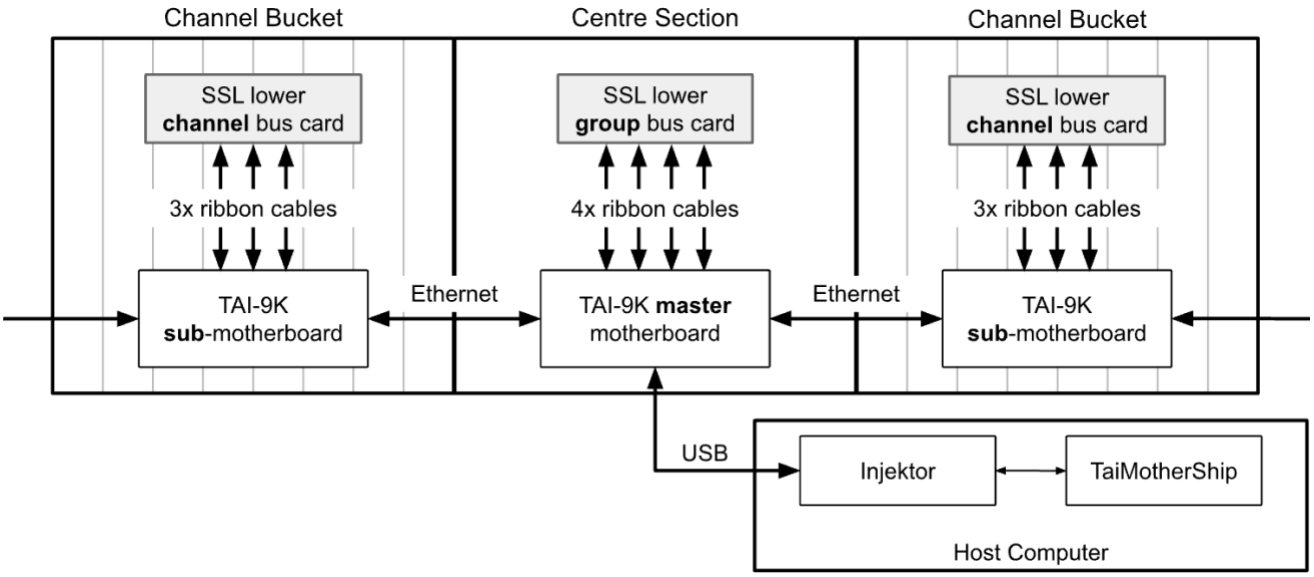
4 INJEKTOR Software 14
4.1 Mix View 14
4.2 RECALL-IT 18
4.3 File View 20
4.4 Setup View 21

5 TaiMotherShip Plug-In 22
5.1 TaiMotherShip plug-in Overview 22
5.2 Session Set-Up for Automation 23
5.3 Toggeling the Mix Engine ON and OFF 23

6 Automation 24
6.1 Automation Lanes 24
6.2 Automation Modes 24
6.3 Writing and Reading Automation from the Console 26
6.4 Typical Mix Automation Workflow 28

1 SYSTEM OVERVIEW

The Tangerine Automation Interface (TAI) for SSL 9000 J/K has four constituent parts: the **TAI Master Motherboard**, **TAI sub-motherboard**, **Injektor** software, and **TaiMotherShip** plug-In.



1.1 HARDWARE OVERVIEW

The TAI-9K system comes with two distinct motherboards, cabling, and accessories. The TAI can control the console's core features without a computer being present.

TAI-MMB

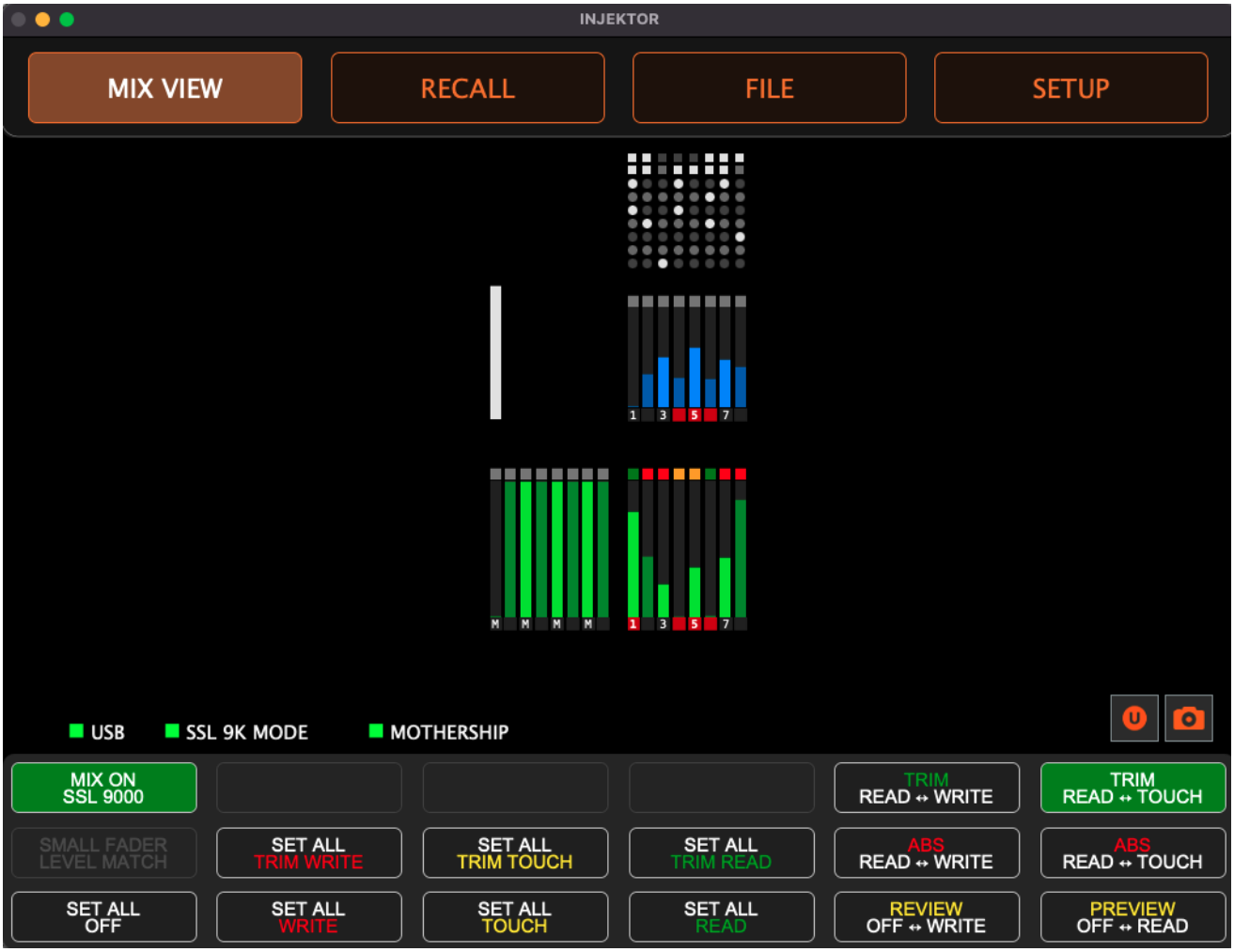
TAI-SMB

The master Motherboard (**TAI-MMB**) installs in the centre-section. It connects to the computer over USB, controls the master section and dispatches automation information to the TAI-SMBs.

The sub-motherboard (**TAI-SMB**) installs in each channel bucket. It communicates large & small fader position, large & small fader cuts, status & channel switches, and recall information between the console and the TAI.

1.2 SOFTWARE OVERVIEW

INJEKTOR is the dispatch software that communicates with the console. It has 4 main views, accessible from the top menu bar. It must always be open for automation to function.



MIX VIEW manages, controls, and monitors console functions. More on **page 14.**

RECALL saves and displays channel strip recall snapshots. More on **page 18.**

FILE saves, loads, exports, imports and deletes recall snapshots and mix scene files. More on **page 20.**

SETUP configures the interface and the software. Workflow selection, comfort settings, system configuration and firmware updates are available. More on **page 21.**

1.3 PLUG-IN OVERVIEW

The **TaiMotherShip** Plug-in reads and writes automation directly to the DAW. It communicates with **Injektor**, displays console status, and controls automation modes. More on **page 22.**

1.4 OVERVIEW OF WORKFLOWS

The Tangerine Automation Interface supports multiple workflows.

INJEKTOR Workflow

Using the **TaiMotherShip** plug-in, the **INJEKTOR** workflow controls up to 96 channels of automation directly from the DAW — no external synchronization is required. Pro Tools, Cubase/Nuendo and Logic are officially supported, though it should work with any DAW supporting AAX/VST/AU plug-ins.

A video guide to the **INJEKTOR Workflow** is available at: **youtu.be/LhZv2SGGNRs**

2 INTERFACE INSTALLATION & SET-UP

2.1 GENERAL INSTRUCTIONS AND INFORMATION

2.1.1 REQUIRED EQUIPMENT

An appropriate length USB-A to USB-B cable is required to complete the installation. Do not use a USB over ethernet extender. For runs over 10 feet (3 meters), use an active repeater USB cable.

2.1.2 PARTS LIST

Each system receives one TAI-MMB kit and each bucket of channels receives one TAI-SMB kit.

TAI Master Motherboard (TAI-MMB) kit

- 1x TAI-MMB
- 1x Universal PicPlug (Purple)
- 1x MMB Power Cable (10-pin)
- 1x PL14-MMB Cable (50-pin)
- 1x PL6-MMB Cable (50-pin)
- 1x PL7-MMB Cable (26-pin)
- 1x TAI PAL Chip
- 1x Master Reset Switch
- 1x MMB Mounting Hardware Kit (2x skis, 4x standoffs, 4x screws, 1x posidrive bit, 1x address tool)

TAI Sub-Motherboard (TAI-SMB) kit

- 1x TAI-SMB
- 1x Universal PicPlug (Purple)
- 1x SMB Power Cable (10 pins)
- 1x PL6-SMB Cable (50-pin)
- 1x PL7-SMB Cable (26-pin)
- 1x PL3-SMB Cable (26-pin)
- 1x Ethernet Cable (RJ-45)
- 1x SMB Mounting Hardware Kit (1x SMB adapter plate, 4x standoffs, 4x screws)

2.1.3 GENERAL INSTALLATION INSTRUCTIONS

- **DO NOT HOTSWAP ANY RIBBON CABLES. Always power down a bucket before changing any connections to the console.**
- All ribbon cables are identified for which side to connect the SSL and to the TAI.
- The system is built from the centre-section outwards, one 8-channel bucket at a time.
- Always test bucket functionality before moving on to the next bucket.
- Once a bucket is tested, it remains powered on throughout the rest of the installation.
- Motherboards are powered from PL5 meter connectors on the console. A splitting cable is provided to simultaneously power the motherboards and the console meters*.
- Take care when opening and closing console panels as to not damage or unplug cables.
- Once complete, disconnected ribbon cables can be safely removed from the console.

* Any issue with the meters after installation is most likely caused by a loose or incorrect connection on a PL5 connector.

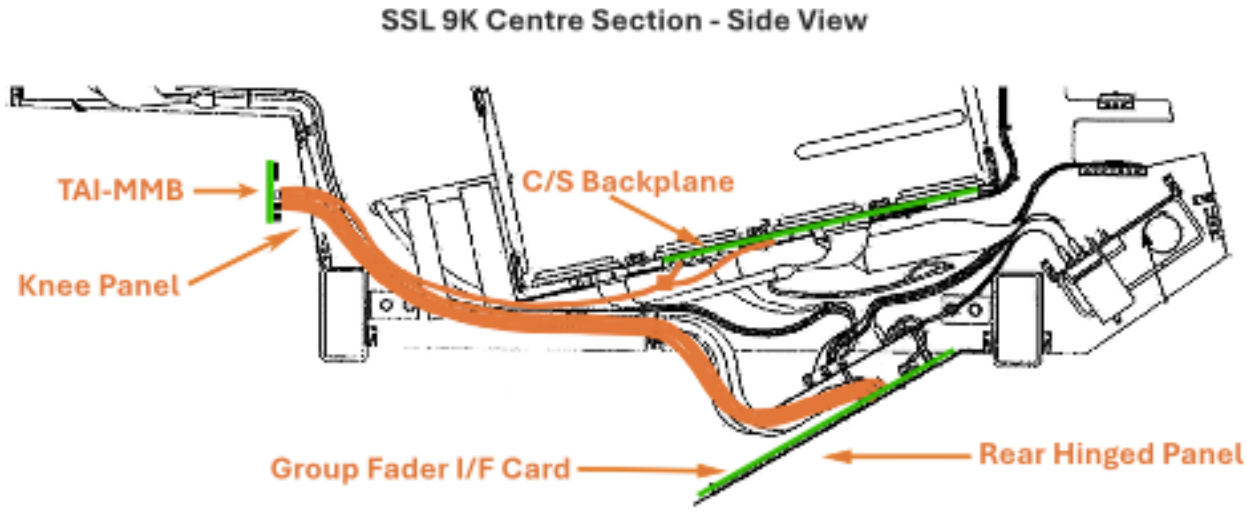
2.2 INJEKTOR SOFTWARE SUITE INSTALLATION

Start by downloading and installing the Injektor Software + Mothership plugin package from the following link : INSERT LINK

2.3 MASTER MOTHERBOARD (TAI-MMB) INSTALLATION

General MMB Installation Notes

- **DO NOT** interchange the **PL14** and **PL6** cables. This **will cause damage** to the console.
- When finished, the **PL3** connector on the **Group Fader I/F** card will be empty.



1) **Using the individual bucket breakers, Power OFF the entire console**

2) **Open the center section under the group faders**
   a) Remove the front facing vented panel located below the group faders (**master section knee panel**).
   b) Remove the 4 screws and lower the **rear hinged panel** to reveal the **Group Fader I/F card**.

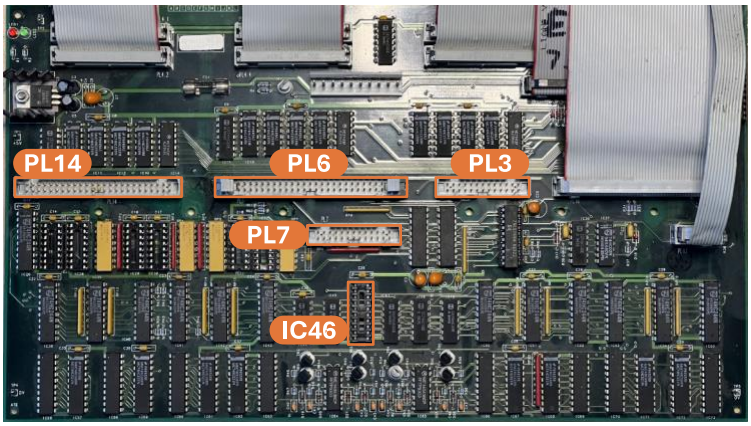
   c) (Optional) Open the rear panel to feed the USB cable thorough the back of the console.

3) **Run a USB-A to USB-B cable from the center section to the host computer**

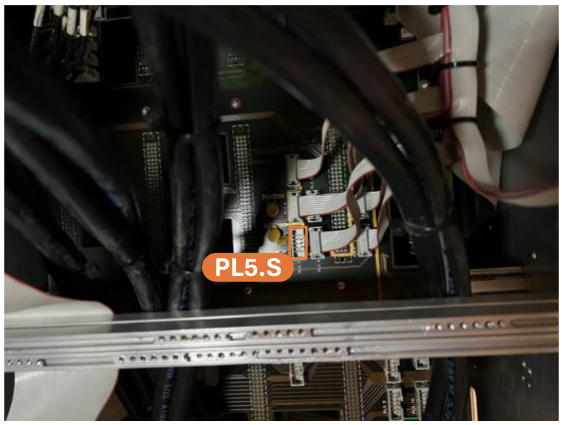
Make sure the USB-B cable is long enough to reach the front of the console.

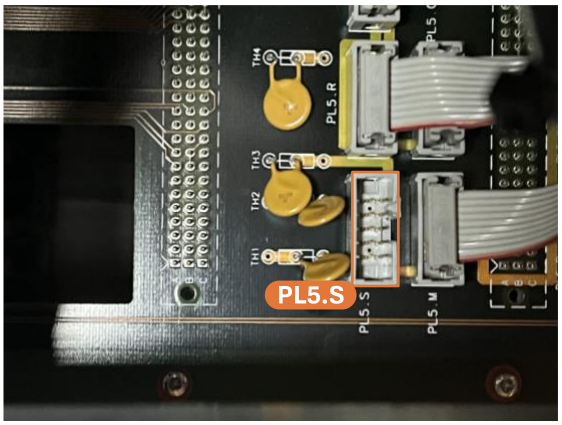
4) Disconnect existing ribbon cables and components inside the console

On the Group Fader I/F card, disconnect **PL3**, **PL7**, **PL6**, **PL14**, and remove **IC46**.



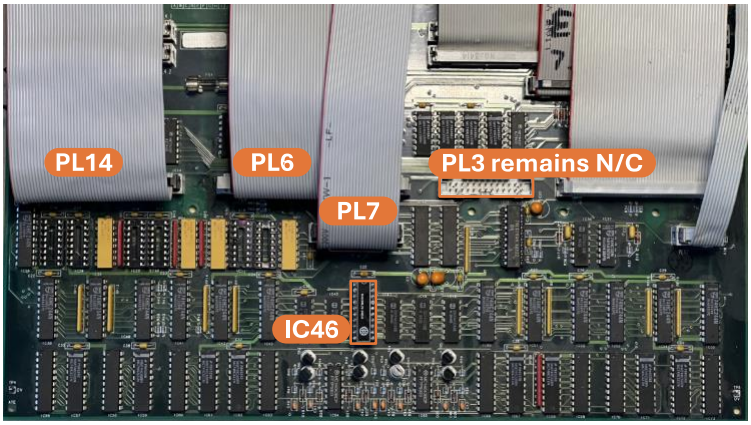
On the C/S Backplane, disconnect **PL5.S** (surround power) ribbon cable. On certain consoles, the connector is on a mezzanine card mounted in the same location.



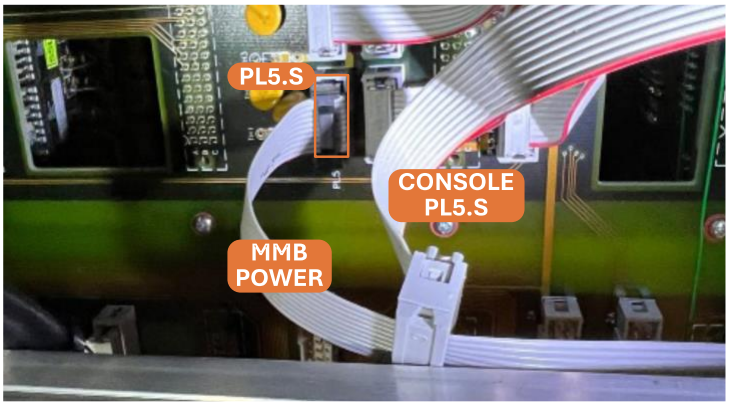


5) Connect the replacement ribbon cables to the console

On the Group Fader I/F card, connect the replacement **PL14**, **PL6**, and **PL7** cables, with pin 1 (red) facing left. Insert the **TAI PAL Chip** into socket **IC46** with the Tangerine logo facing down.

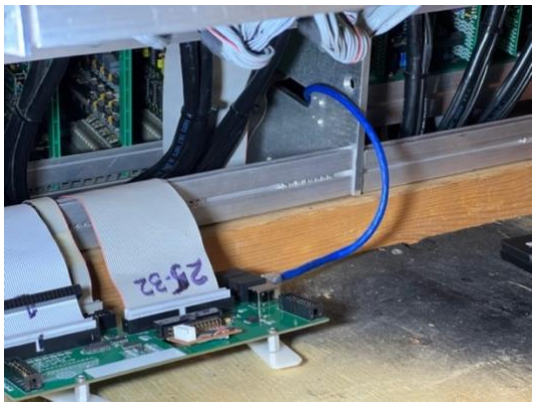


On the C/S Backplane, connect **MMB Power** to **PL5.S** and the **console's PL5.S** to the second connector on **MMB Power**.



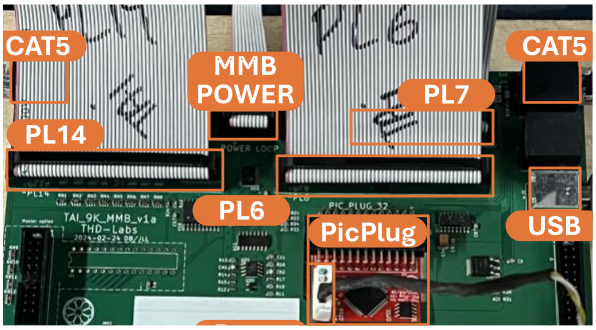
6) Run the 5 cables (4 flat + USB) through the knee panel letting them hang out the front.

7) Run CAT5 to either side of the centre section



8) Connect all parts to the TAI-MMB

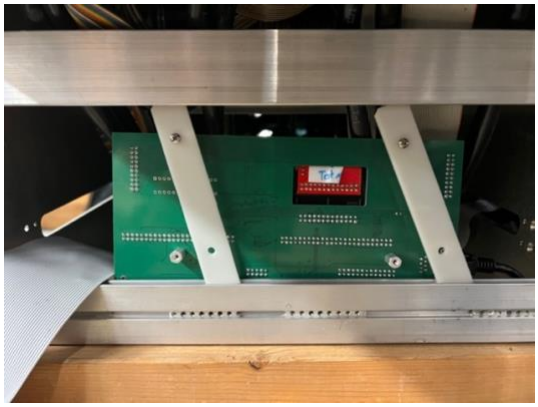
Connect **MMB Power**, **PL7**, **PL14**, **PL6**, **USB** and 2x **CAT5** to TAI-MMB as illustrated. Insert the **PicPlug** into its connector.

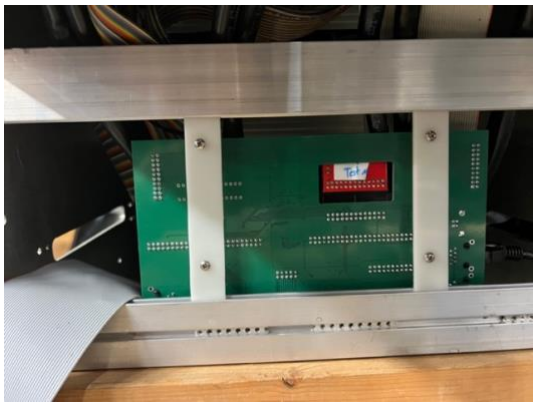


Note: Do not let the TAI-MMB hang loosely from the front of the console while under power. Doing so can cause contacts on the back of the PCB to short with the console's metal chassis.

9) Install the TAI-MMB into the aluminum channel

Angle the skis sideways to fit the assembly through the chassis. Slide the MMB skis into the aluminum channel and screw them into place using the screws provided.





10) Test TAI-MMB integration and communication with Injektor

Power ON the console's centre-section. Verify the following:

- The TAI-MMB **Power LED** is illuminated
- The faders' group indicator indicates **Group 0**
- The VCA **CUT LEDs** toggle when CUT is pressed
- Touching the fader illuminates the fader's **ALT LED**

If these tests pass, connect **USB** to the host computer. Open the **Injektor** software. Verify:

- Injektor **detects the bucket** of 8 channels
- Injektor **updates fader position** and cut status when changed on the console

If any of these tests are non-functional, see the troubleshooting table below. The table indicates the system status when a cable is not connected (N/C) or a component is missing.

Note: depending on the maintenance state of the console, one or more faders may fail a test. **If a single fader responds correctly to all tests**, the motherboard installation is correct.

TAI-MMB troubleshooting matrix

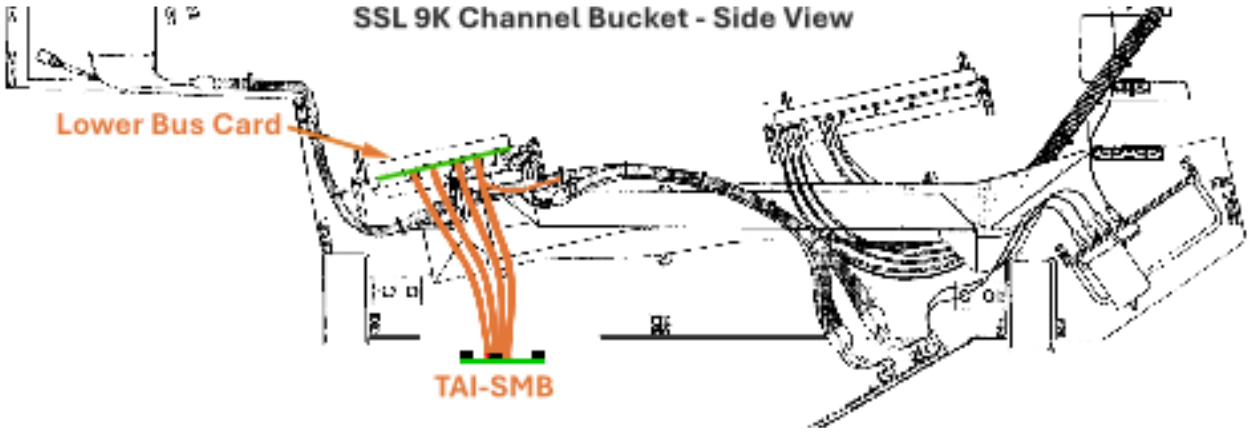
	Power LED	**Group 0**	**CUT LEDs**	**ALT LED** on Touch	**Injektor**
Fully Functional	YES	YES	YES	YES	Detected
MMB Power N/C	NO	YES	NO	NO	NO Dtc.
PicPlug-MMB not present	YES	YES	NO	NO	NO Dtc.
PL14 N/C	YES	NO	NO	NO	Detected
PL6 N/C or **USB** N/C	YES	YES	YES	YES	Not Detected
PL7 N/C or **TAI PAL Chip** not present	YES	YES	NO	NO	Detected

Once fully functional, maintain centre-section power and install SMBs **one bucket at a time**.

2.4 TAI SUB-MOTHERBOARD (TAI-SMB) INSTALLATION

General SMB installation notes

- Install TAI-SMBs individually and test functionality through to Injektor before moving on.
- SMBs are daisy-chained via RJ-45 (Ethernet) cables.
- Test standalone functionality before adding an SMB to the CAT5 daisy-chain.
- Once a bucket is tested, it remains powered on throughout the rest of the installation.
- When finished, the PL3A connector will be empty on every bucket.



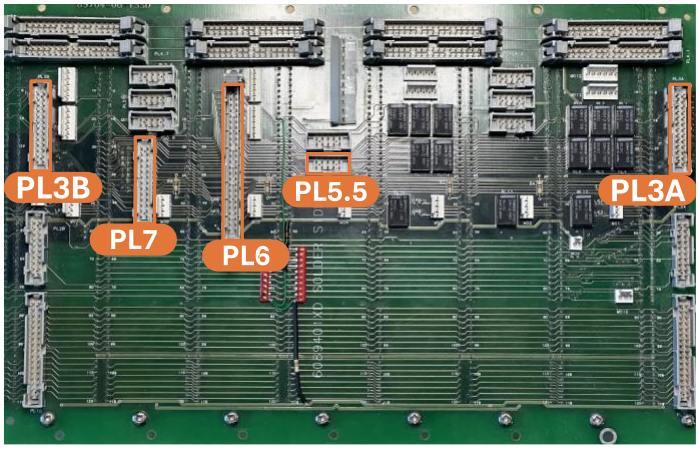
1) Verify that the bucket is powered off before working on it

2) Open the console

- Remove the 4 screws and lower the **front panel** to reveal the **Lower Bus Card**.

3) Disconnect existing ribbon cables from the Lower Bus Card

Disconnect **PL3A**, **PL3B**, **PL5.5**, **PL6**, and **PL7**.

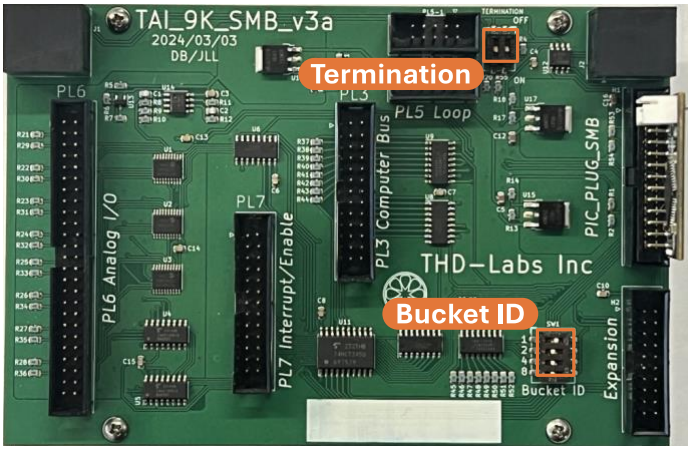


4) Connect the replacement ribbon cables to the Lower Bus Card

On the Lower Bus Card, connect the replacement **PL3** ribbon cable to **PL3B**. Connect **PL6** and **PL7** to their respective connectors. Connect **SMB Power** to **PL5.5**. **PL3A** remains empty.

5) Set the TAI-SMB Bucked ID and termination jumpers

TAI-SMBs are pre-addressed and identified with a bucket number. Make sure the proper SMB is being installed.



If necessary, **set the SMB Bucket ID jumpers** to the proper bucket number using the table below

Bucket ID 8	Bucket ID 4	Bucket ID 2	Bucket ID 1	SMB Address
Left	Left	Left	Left	Address 0 – Reserved for TAI-MMB / VCA groups
Left	Left	Left	Right	Address 1 – Channels 1 to 8
Left	Left	Right	Left	Address 2 – Channels 9 to 16
Left	Left	Right	Right	Address 3 – Channels 17 to 24
Left	Right	Left	Left	Address 4 – Channels 25 to 32
Left	Right	Left	Right	Address 5 – Channels 33 to 40
Left	Right	Right	Left	Address 6 – Channels 41 to 48
Left	Right	Right	Right	Address 7 – Channels 49 to 56
Right	Left	Left	Left	Address 8 – Channels 57 to 64
Right	Left	Left	Right	Address 9 – Channels 65 to 72
Right	Left	Right	Left	Address 10 – Channels 73 to 80
Right	Left	Right	Right	Address 11 – Channels 81 to 88
Right	Right	Left	Left	Address 12 – Channels 88 to 96
Right	Right	Left	Right	Address 13 – Channels 97 to 104

Set all the **termination jumpers** to ON.

Using the provided **4x machine screws** and **standoffs** provided, mount the TAI-SMB to the **mounting plate**. See illustration for correct orientation.

6) Connect the TAI-SMB to the console

Connect **PL3, PL6, and PL7** to TAI-SMB. Attach both **SMB-Power** and the console's **PL5.5 cable** to the **PL5 Loop connectors** on TAI-SMB. Ensure **PL5.5** is installed with pin 1 (red wire) on the right-hand side—incorrect installation can lead to damage (**PL5.5** lacks a lockout pin). Insert the black **PicPlug-SMB** into its connector. Route the provided **CAT5 cable** to the next bucket and connect it. **Do not yet connect the CAT5 from the previous card**.

7) Test TAI-MMB installation and communication with Injektor

a) **Power ON** the bucket

b) Verify the motherboard's console control features:
- The TAI-SMB **Power LED** is illuminated
- The faders' group indicator indicates **Group 0**
- The channel's **CUT LEDs** toggle when CUT is pressed
- Touching the fader illuminates the fader's **ALT LED**
- Computer controlled **soft-switches** toggle their LEDs (EQ/Dynamics/FX In/Out)

If the **Power LED is ON** and **at least 1 other test is okay**, continue to the next step.

c) Connect the **CAT5** to the daisy chain. Verify that:
- Injektor automatically detects the additional bucket

- If any tests are non-functional, use the troubleshooting table below.

This table indicates the system status when functional or a cable is not connected (N/C).

Note: depending on the maintenance state of the console, it is possible that one or more individual channels fail the test. For a given bucket, if **single channel responds correctly** to all tests, the motherboard installation is correct.

Note: the bucket's meters may show a phantom volume during the installation process. This is normal, if this behaviour disappears once the rest of the console is powered ON.

TAI-SMB troubleshooting matrix

	Power LED	**Group 0**	**CUT LEDs**	**ALT LED** on Tch	**Sft SW**	**Injektor**
Fully Functional	YES	YES	YES	YES	YES	Detected
SMB Power N/C	NO	YES	NO	NO	NO	NO Dtc.
PicPlug-SMB or **Addressing error***	YES	YES	NO	NO	NO	NO Dtc.
PL3 N/C	YES	NO	YES	NO	YES	TBC
PL6 N/C or **CAT5** N/C	YES	YES	YES	YES	YES	Not Detected
PL7 N/C	YES	YES	NO	NO	NO	Detected

* If console control features are functional and only become non-functional when the CAT5 is connected, then the issue is most likely an addressing (dip switch) conflict.

8) Finalize installation of the TAI-SMB
Insert one side of the plexiglass mounting plate into the slot in the aluminum channel. Flex the mounting plate to snap it into place.

9) Once completed, maintain bucket power ON and restart this process with the next SMB
Note: experienced technicians desiring to expedite the installation process can execute steps 1 through 7 (everything until the bucket is powered ON) for all buckets in parallel. PL3A must be disconnected on all buckets. Only power ON one bucket at a time, and test through to Injektor before moving on.

2.5 INSTALLATION FINALIZATION

Close the console and re-test functionality:

a) Using the individual bucket breakers, power OFF the entire console
b) Close all open installation panels.
c) Starting with the center section and working out, power on the buckets one-by-one, verifying that Injektor detects them each time and that no functionality is lost.

The hardware installation is now complete.

2.6 INTERFACE CONFIGURATION

Using the **INJEKTOR** software, navigate to the **Setup** tab, select the desired workflow. Optionally, configure usage preferences. For more information see **Setup View page** 21.

2.7 RECOMMENDED POWER ON SEQUENCE FOR GENERAL OPERATION

During normal operation, it is recommended to power on the automation system in the following order:

1. Power ON the host computer.
2. Power ON the console.
3. Open **INJEKTOR.**
4. Open the DAW mix session.

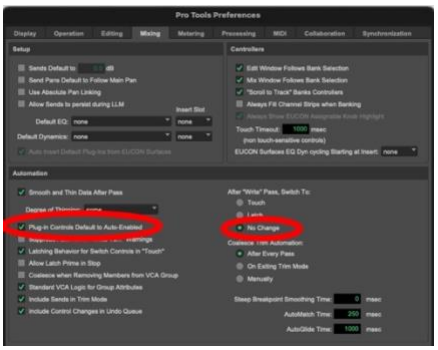
3 DAW SET-UP

DAW settings must be set to ensure seamless integration with the TAI. Settings vary by workflow.

3.1 PRO TOOLS SETUP FOR INJEKTOR WORKFLOWS

CONFIGURE Pro Tools for use with the INJEKTOR workflow

1. Open Pro Tools preferences.
   (*Menu—> Pro Tools—> Preferences*)



In the **Mixing** tab:
Set: "Plug-in controls Default to Auto-Enabled"= **Checked**
Set: "After Write Pass, Switch to" = **No Changes**

---

2. Open the automation window
   (*Menu—> Window—> Automation*)

Set: <Write enable> = "PLUG-IN" = ON.

3.2 LOGIC PRO X SETUP FOR INJEKTOR WORKFLOWS

CONFIGURE Logic Pro X for use with the INJEKTOR workflow

1. Open Logic Pro X preferences.
   (*Menu—> Logic Pro—> Preferences*)

   In the **Automation** tab:
   Set: "Write" mode changes to = **OFF**
   Set: Write automation for Plug-In = **Checked**

4 INJEKTOR SOFTWARE

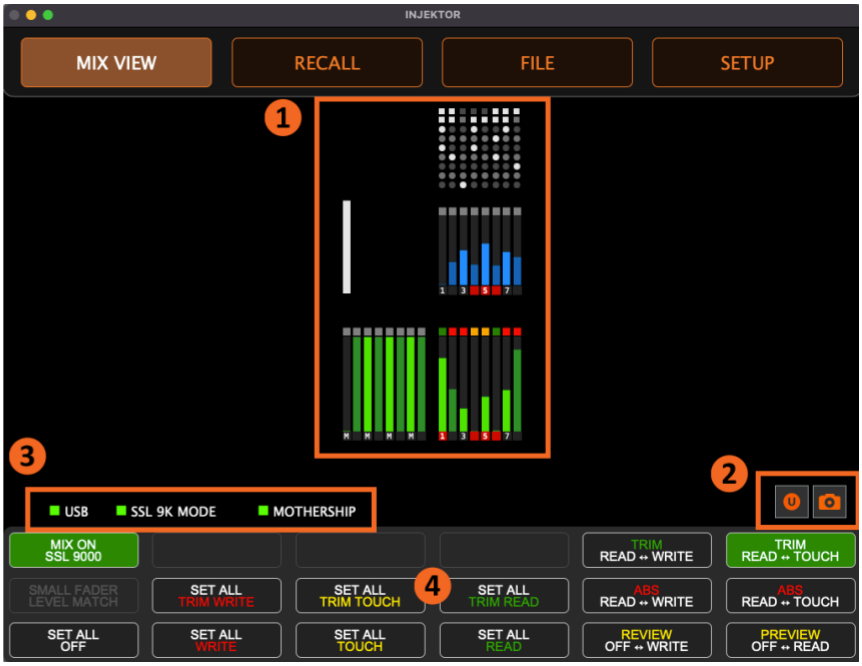
The **INJEKTOR** software controls the TAI and bridges it with **TaiMotherShip** running in the DAW. As such, it must always be open in the background during all mixing operations.

INJEKTOR has 4 windows: **MIX VIEW, RECALL, FILE, SETUP.**

4.1 MIX VIEW

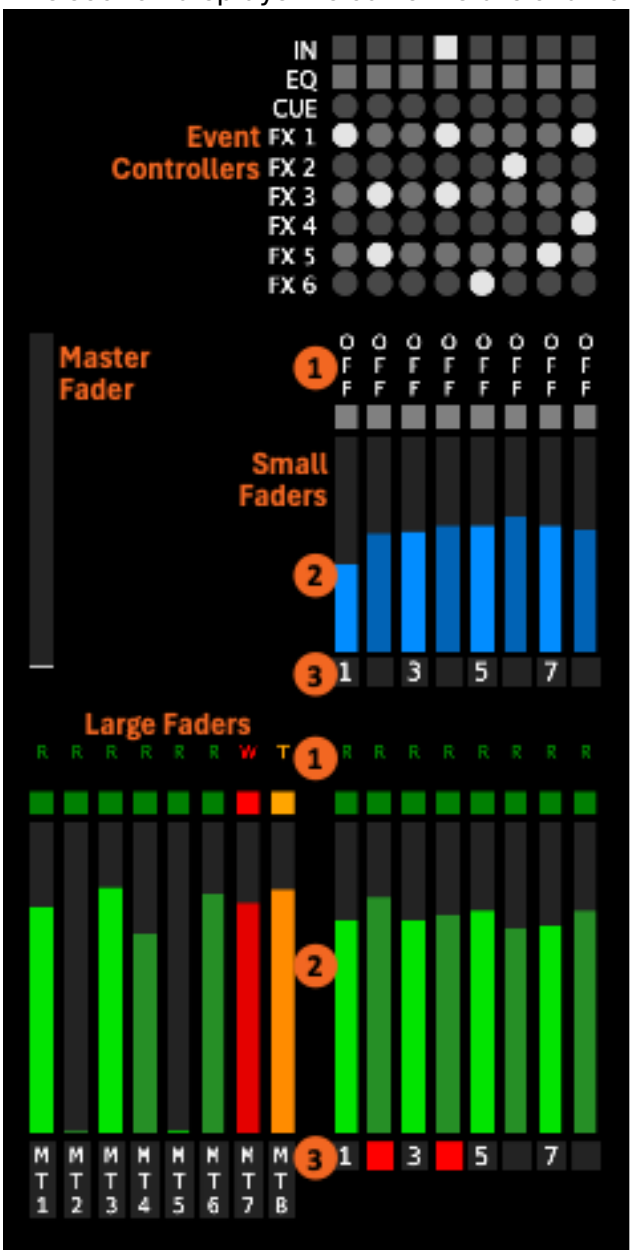
Injektor's Mix View is divided into 4 sections:

1. Channel Status
2. Mix Scenes
3. Protocol Status
4. Automation Controls



4.1.1 CHANNEL STATUS

This section displays the current state of all channels on the console.



Event Controllers
Displays all automatable soft switch parameters.
White indicators are punched IN, greys are OUT.
Click a parameter to change it's state.

1 **Automation Mode Indicator**
Displays the current automation mode between:
OFF, WRITE, READ, Touch, Trim Read, Trim Touch.

2 **Fader Level**
Displays the current level for each channel.
When reading automation, the DAW playback level is shown.
In all other modes, the fader level is shown.

3 **Channel Number and Mute Status Indicator**
Displays the channel number and mute status for each channel.
Red background = muted; Grey = not muted.

4.1.2 MIX SCENE PANEL

Mix scenes are instantly recallable static mixes. Press the **Mix Scene Button** in the **Mix View** to open the **Mix Scene Pannel**.

1 **Mix Set Indicator**
Displays the current loaded mix set.
A mix set is a collection of mix scenes (1-8) stored in banks (A-H).

2 **Erase Button**
When active, any selected mix scene will be deleted.

3 **Save Button**
When active, the current console state will be saved to the next selected mix scene button.

4 **Mix Scene Button**
Recalls the console to the saved mix scene state. Green buttons are available for recall; blank buttons are available for saving.

5 **Bank Selector**
Shows the currently selected bank. Each bank can hold 8 mix scenes.

6 **Create Mix Set Button**
Creates a new blank mix set. A warning will appear if any unsaved changes exist.

7 **Mix Scene Affected Objects**
Select which objects are sent to the hardware from the Mix Scene Snapshot

8 **Unity Gain Button**
Set all faders to their calibrated unity (0dB) value.

9 **Clear Soft Switches Button**
Resets all soft switches to the OFF state

4.1.3 AUTOMATION CONTROLS

Displays console automation controls. This section is only available when the mix engine is on.

1 Mix Button

(Only available if all protocol status indicators are green.) Turns the mix engine ON or OFF.

In MIX OFF, all automation is ignored, channels can not be put into an automation mode.
In MIX ON, faders react according to their individual automation mode.

2 Level Match Button

Level Match is used to align the current fader position to the written automation on non-motorized faders. When activated, it displays the current fader position (in red) and the automation READ volume (in green) side-by-side. The green bar extends once levels are matched.

Note: a fader must be in READ for Level Match to function.

3 SET ALL Buttons

Sets all console channels to the displayed automation mode (OFF, WRITE, TOUCH, READ).

4 Global Automation Mode Selector

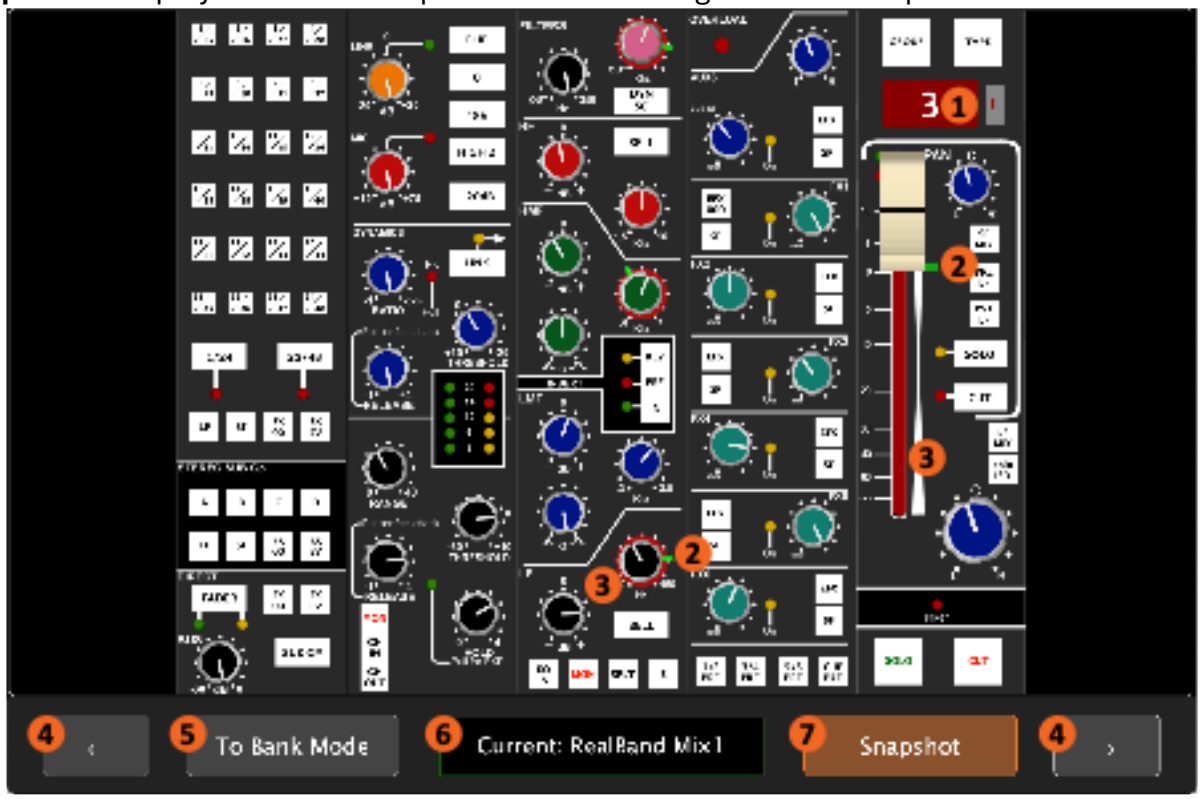
The Global Automation Mode determines which two automation modes the channel status switch will toggle between (e.g., in Preview mode, the status switch will toggle a channel only between OFF and READ).

4.2 RECALL-IT

Recall-iT creates and displays channel strip snapshots. Two modes are available: the **Strip Mode** and the **Bank Mode**.

4.2.1 RECALL-IT STRIP MODE

Strip Mode displays all recallable parameters for a single channel strip.



1. **Channel Number Indicator**
   Displays the current channel to be matched.

2. **Target Position Indicator**
   To match a knob or slider, move it to the position indicated by the green line. Once matched, the indicator disappears.

3. **Mismatch Indicator**
   A red outline indicates that a knob, slider, or switch is in an incorrect state or position. Once matched, the indicator disappears.

4. **Navigation Button**
   Moves the recall focus to the previous or next channel.

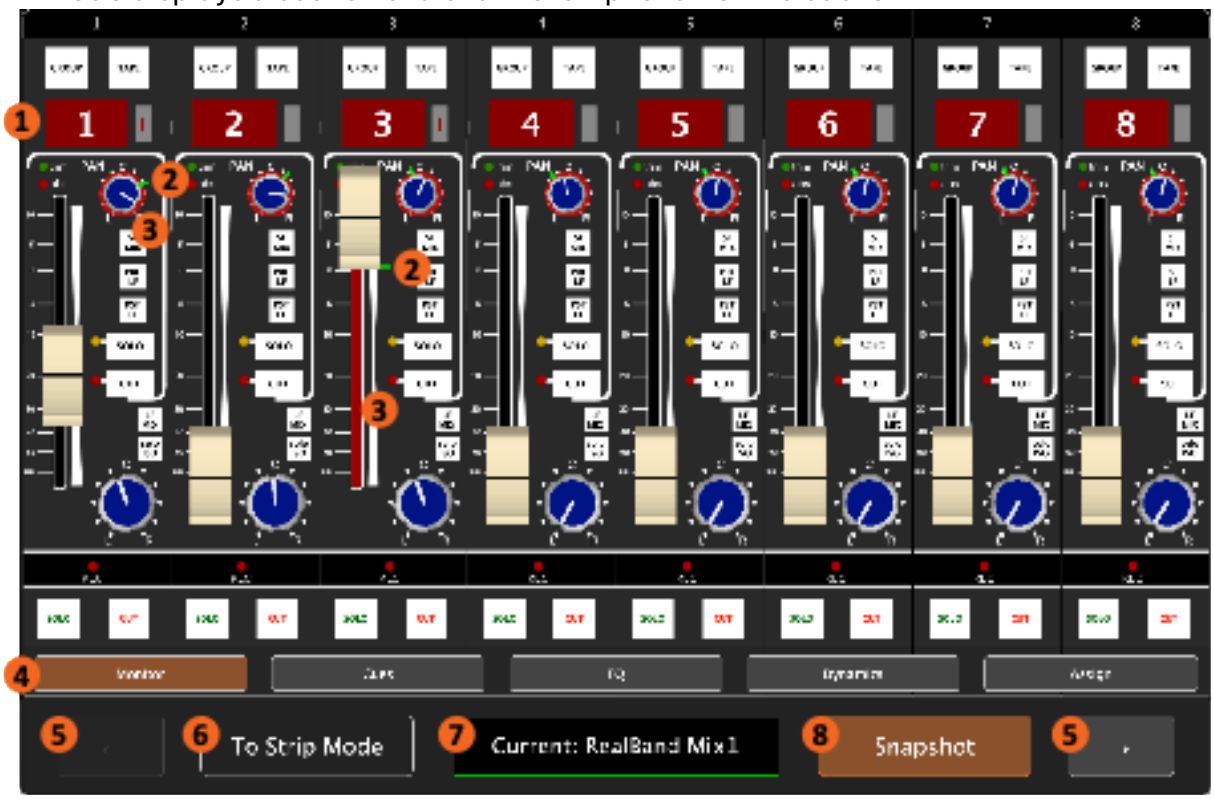
5. **Mode Toggle Button**
   Swaps between Strip Mode and Bank Mode.

6. **Recall Information Indicator**
   Displays the currently loaded snapshot.

7. **Snapshot Button**
   Creates a snapshot of the current console state (opens the file manager for saving).

4.2.2 RECALL-IT BANK MODE

Bank Mode displays a section of a channel strip for an entire bucket.



1. **Channel Number Indicator**
   Displays the current bucket to be matched.

2. **Target Position Indicator**
   To match a knob or slider, move it to the position indicated by the green line. Once matched, the indicator disappears.

3. **Mismatch Indicator**
   A red outline indicates that a knob, slider, or switch is in an incorrect state or position. Once matched, the indicator disappears.

4. **Section Selector**
   Moves the recall focus to a different section of the selected channel strips.

5. **Navigation Button**
   Moves the recall focus to the previous or next bucket.

6. **Mode Toggle Button**
   Swaps between Strip Mode and Bank Mode.

7. **Recall Information Indicator**
   Displays the currently loaded snapshot.

8. **Snapshot Button**
   Creates a snapshot of the current console state (opens the file manager for saving).

4.3 FILE VIEW

The File View saves and loads **Recall-iT snapshot files** and **mix scene set files**.

4.3.1 SAVING FILES

Files are automatically saved with every Recall Snapshot and through the Mix Scene Panel. Files can be backed up or moved by changing their default save location.

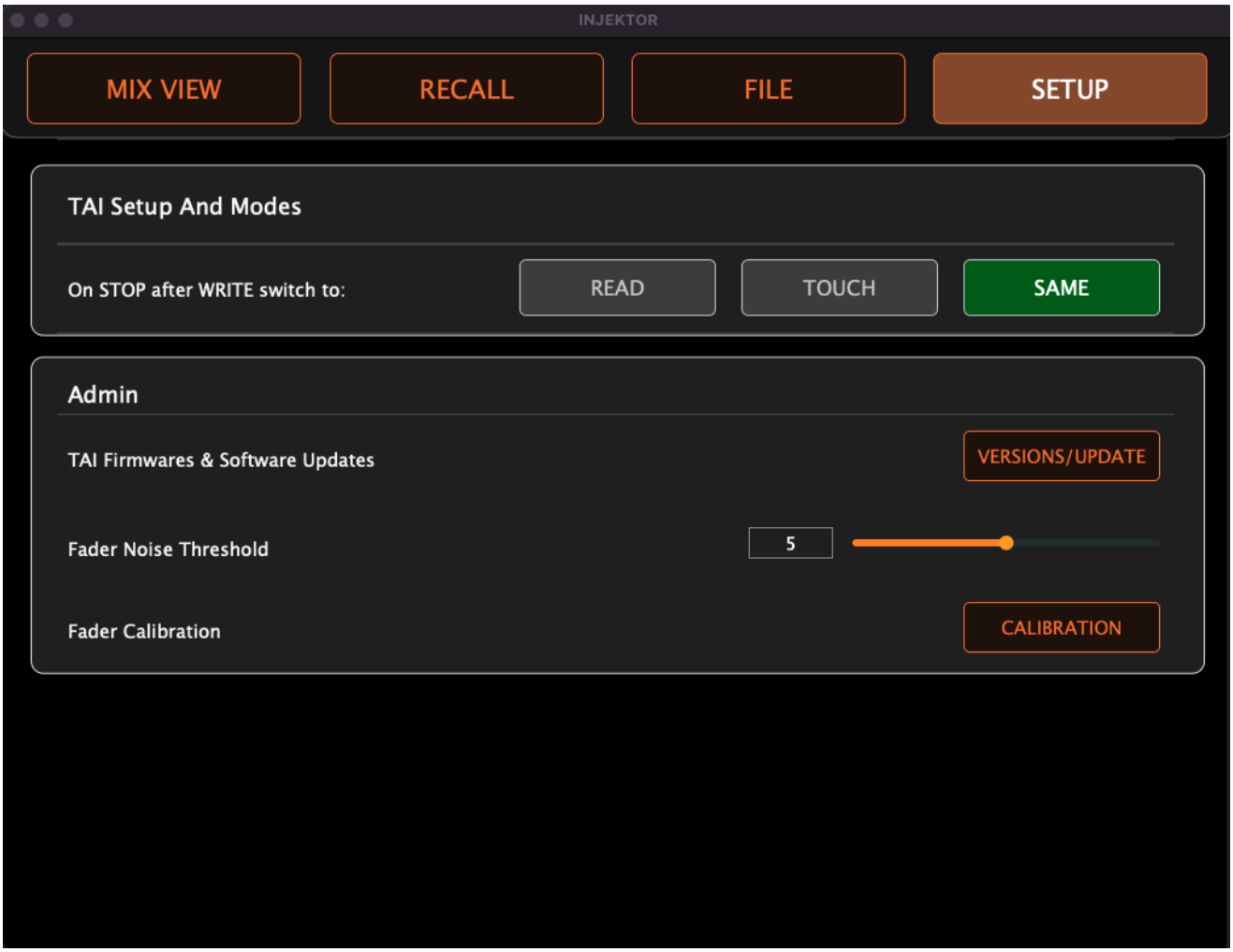
4.3.2 LOADING FILES

Selecting **FILE** from Injektor's main navigation opens the **Load File view**. This view enables the loading of **Recall-iT snapshots** and **Mix Scene Sets**.

1. **File Type Selector**
   Determines if Recall-iT Snapshots or Mix Scene Sets will be listed.
2. **Folder Location Button**
   Defines the folder to list files from.
3. **File List**
   Displays files that are available to be loaded.
3. **Load File Button**
   Loads the desired file into Injektor. The currently loaded file is indicated.
4. **Delete File Button**
   Deletes the file from your computer.

4.4 SETUP VIEW

The Setup View allows the user to calibrate, configure and update the system.



4.4.1 TAI FIRMWARE & SOFTWARE UPDATES

When you are notified of a new firmware update for your system, you can access it by clicking the **VERSION/UPDATE** button in the Setup View followed by **Check and Update Firmware** and **Start Update**.

4.4.2 FADER CALIBRATION SETUP & SETTINGS

To start the fader calibration process, simply click the CALIBRATION button in the Setup View and clock through the prompts.

5 TAIMOTHERSHIP PLUG-IN

The **INJEKTOR** workflow is based around the **TAIMothership** plug-in. For a visual guide to using this workflow in Pro Tools, check out our video at **https://youtu.be/LhZv2SGGNRs**

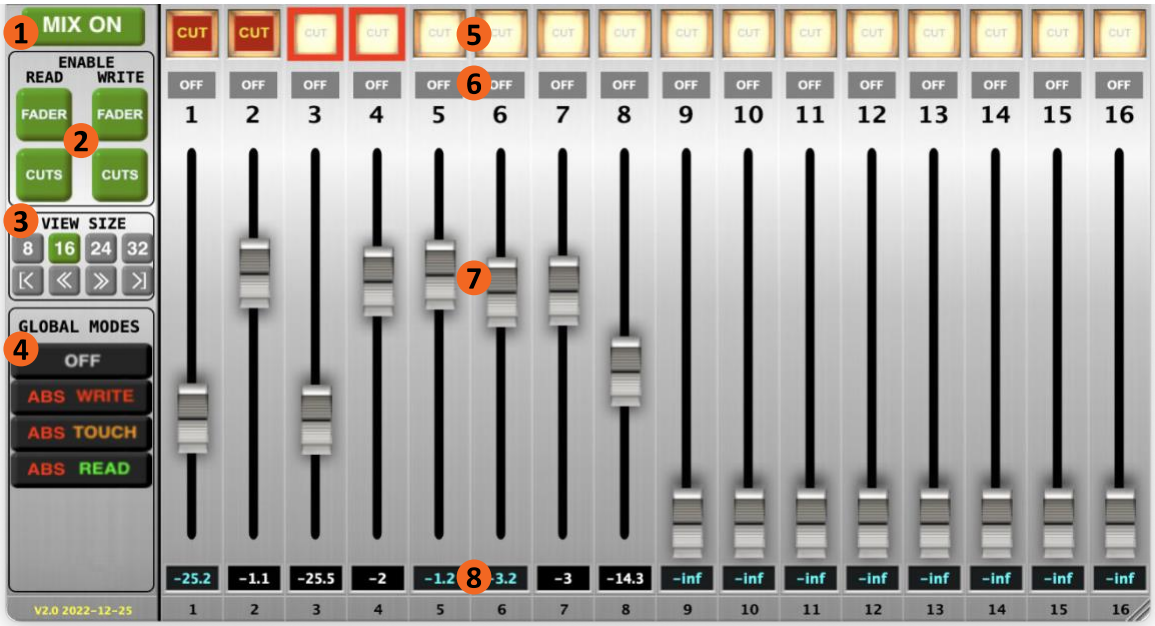
> **NOTE:** The **INJEKTOR** desktop application must be running at all times in order to use the **TAIMothership** plug-in.

5.1 TAIMOTHERSHIP PLUG-IN OVERVIEW

The **TaiMothership** AAX/AU/VST plug-in reads and writes automation to the DAW.

A single plug-in instance controls all automatable parameters from all console channels. Automation lanes are written independently into a single DAW track.

Install only one instance of **TaiMotherShip** per DAW session.



1 Mix Button
MIX OFF: automation engine is deactivated.
MIX ON: faders react to automation.

2 Automation Enable Buttons
Enables/disables automation information to/ from the console.

3 View Size
Sets the number of tracks to show simultaneously. Arrows enable banking.

4 Global Modes
Set all channels to an automation mode.

5 Mute Indicator
Solid red = channel is muted.
Red Outline = channel is mute write enabled.

6 Automation Mode Controller
Shows channel's automation mode.
Click to change.

7 Fader Position Indicator
In READ: shows DAW's playback.
All Other Modes: shows physical fader.

8 Fader dB indicator
Displays the current fader level in dB.

5.2 SESSION SET-UP FOR AUTOMATION

With the INJEKTOR Application configured and running:

1. Open a **DAW** Session.
2. Add the **TaiMotherShip** Plug-In to a single audio track insert.
   A single instance controls all console fader channels.
3. Set the track automation mode to **TOUCH**.
4. In the Plug-In, enable **MIX ON**. (see below)
5. (optional) To see automation lanes as they're written: In the DAW's edit window, use the automation selector pulldown menu to view the desired parameter from **TaiMotherShip**.

5.3 TOGGELING THE MIX ENGINE ON AND OFF

Automation is not possible in when the mix engine is deactivated (**MIX OFF**). To enable the mix engine (**MIX ON**), the following conditions must first be met:

1. The TAI must be powered on with a USB cable connected to the host computer.
2. The **INJEKTOR** software must be open and running.
3. The **INJEKTOR** and the TAI need to communicate (the USB indicator is green).
4. The TAI must be in **INJEKTOR** mode (the INJEKTOR indicator is green).
5. The **TaiMotherShip** plug-in must be loaded into an active DAW session.
6. The plug-in and **INJEKTOR** need to communicate (the **TaiMotherShip** indicator is green).

Once met, there are multiple equivalent ways to activate the mix engine (**MIX ON**):

- Using **INJEKTOR**, press MIX ON.
- Using the **TaiMotherShip**, press MIX ON.

Note: When turning mix ON, faders will always default to the **OFF** position to avoid unintended fader jumps. Set the faders to an automation mode to resume mixing.

6 AUTOMATION

6.1 AUTOMATION LANES

In the DAW, **TaiMotherShip** creates multiple automation lanes for each console channel. The following lanes are created for both the **Large Fader** and the **Small Fader**:

- The **Large Fader Absolute volume lane** records the absolute fader position.
- The **Large Fader TRIM offset lane** records TRIM offsets.
- The **Mute Lane** records mute state.

6.2 AUTOMATION MODES

Automation modes dictate a fader's response to automation data written in the DAW, and the DAW's response to fader movement.

6.2.1 GLOBAL AUTOMATION MODES

Following the same standard as the original SSL Automation computer, the TAI supports 6 **global automation modes**. These modes control how each channel's status switch will respond when pressed.

Global Automation Modes are chosen via **INJEKTOR** or the **TaiMothership** plug-in.

- In **Preview**, the status switch will toggle between **Off** and **Write** modes.
- In **Review,** the status switch will toggle between **Off** and **Read**.
- In **Abs Read ⟷ Write** the status switch will toggle between **Read** and **Write**.
- In **Abs Read ⟷ Touch** the status switch will toggle between **Read** and **Touch**.
- In **Trim Read ⟷ Write** same as **Abs Read ⟷ Write** but for the TRIM track.
- In **Trim Read ⟷ Touch** same as **Abs Read ⟷ Touch** but for the TRIM track.

6.2.2 CHANNEL AUTOMATION MODES

The TAI supports 7 automation modes that are assignable individually to any channel on the console.

- In **OFF** mode, there is no automation on the channel. Previously recorded automation is ignored, and no automation is written.
- In **WRITE** mode, fader position is written to the DAW's **absolute volume lane**. Data is written immediately. Previously recorded automation is overwritten. Mute is written to the **mute lane**.

- In **READ** mode, the DAW controls the faders using data written to the **absolute volume lane** and the **mute lane**. If data is written to the **TRIM offset lane**, it is ignored.

- In **TOUCH** mode, the DAW reads back the **absolute volume lane** and the **mute lane** until the fader is touched at which point it overwrites existing data. Once released, the fader returns to reading the existing automation (it does not latch).

- In **TRIM WRITE** mode, the fader position is written as an offset to the **TRIM offset lane**.

- In **TRIM READ** mode, levels are read from both the trim and absolute tracks. Trim offsets compound with levels on the absolute track. For example, if the absolute track is at -7 dB and the trim track is at +2 dB, the audio is played back at -5 dB.

- **TRIM TOUCH** functions in the same way as **TOUCH**, but interacts with the Trim Track.

6.2.3 SETTING AUTOMATION MODES

Channel automation modes can be set from any available controller: the fader's status switch, **Injektor**'s automation buttons and **TaiMotherShip**'s status indicators.

Setting automation modes from the channel

A channel's status switch sets its automation mode independently from all other channels. The currently selected **Global Automation Mode** dictates between which two modes the status will toggle.

Setting automation modes from INJEKTOR

INJEKTOR sets both **channel automation modes** and the **global automation mode**:

- Click the **set-all channel automation mode buttons** to set channel automation modes.

- Click any of the **global modes** to set the global automation mode.

See page 17 for **INJEKTOR**'s automation control features.

Setting automation modes from TaiMotherShip

TaiMotherShip sets both **channel automation modes** and the **global automation mode**:

- Click the **automation mode controller** on any channel to change it to a different mode.

- Click any of the **global modes** to set the global automation mode.

- Hold shift and hover over the global automation modes to reveal **set-all channel automation modes**.

See page 22 for **TaiMotherShip**'s automation control features.

6.3 WRITING AND READING AUTOMATION FROM THE CONSOLE

6.3.1 USING AUTOMATION IN THE ABSOLUTE MODE

Writing automation using WRITE mode

1. Set any channel to **WRITE**.
2. Set the DAW playhead to the desired write start location.
3. Put the DAW in play, automation will be written to all channels set to **WRITE**. Any existing automation will not be played back and will be overwritten.
4. Stop Playback, all channels will toggle to **READ**.

Reading Automation using READ mode

1. Set any channel with automation already written to **READ**.
2. Set the DAW playhead to the desired read location. When the DAW is in stop, fader positions will jump to match the playhead position. In play, faders will follow automation in real-time.
3. If a fader is touched, the motor will disengage and will reengage on release. No automation will be written.
4. To stop reading automation, set the fader to **OFF**

Updating automation using TOUCH mode

1. Set any channel with automation already written to **TOUCH**
2. Set the DAW playhead to the desired read location. When the DAW is in stop, fader positions will jump to match the playhead position. When the DAW is in play, faders will follow automation in real-time.
3. Touch a fader to overwrite its existing automation position.
4. To stop reading automation, set the fader to **OFF**.

Note: When reopening any mix session, faders will always default to the **OFF** position to avoid unintended fader jumps. Set all faders to **READ** or **TOUCH** to resume mixing.

6.3.2 USING AUTOMATION IN TRIM MODE

TRIM mode interacts with the TRIM automation lane, which is separate from absolute volume. This lane offsets the absolute volume by a specified number of decibels. When in **READ**, only the absolute lane is played back. Whereas in **TRIM READ**, a composite of the absolute + trim is played back. It is therefore possible to toggle between the original mix and a new trimmed mix on a channel-by-channel basis.

On SSL 9000 J/K consoles, the console is toggled over to the VCAs while the fader is used to write TRIM information.

Writing TRIM using TRIM WRITE

1. Set the DAW playhead to the desired TRIM location.
2. Set any channel with automation already written to **READ**. (This ensures that the start reference level is correct)
3. Set the channel to **TRIM WRITE**. Update the fader position to the desired level.
4. Put the DAW in play. The difference between the written automation and the current fader position will be written to the TRIM track.
5. If a fader is touched, the motor will disengage and will reengage on release. No automation will be written.
6. Stop playback.

Reading TRIM using TRIM READ

1. Set any channel with TRIM already written to **TRIM READ**.
2. Set the DAW playhead to the desired read location. When the DAW is in stop, fader positions will jump to match the playhead position. In play, faders will follow automation in real-time.
3. If a fader is touched, the motor will disengage and will reengage on release. No automation will be written.
4. To stop reading TRIM, set the fader to **OFF** or return to **READ.**

Updating TRIM using TRIM TOUCH

1. Set any channel with automation already written to **TRIM TOUCH**
2. Set the DAW playhead to the desired update location and put it in play.
3. Touch a fader to overwrite its existing TRIM.
4. To stop reading TRIM, set the fader to **OFF** or return to **READ.**

6.3.3 USING MUTE AUTOMATION

Writing Mute Automation

When a channel is set to WRITE mode, mutes will be written.

Reading Mute Automation

Mute reads follow the channel's Automation Status Modes. If the channel is in a mode that plays back Automation Data (**READ, TOUCH, TRIM READ, TRIM TOUCH**), mutes will be played back.

6.4 TYPICAL MIX AUTOMATION WORKFLOW

The typical workflow for mixing a project is as follows:

1. Start with all tracks in **OFF**. Use the faders to set the levels as desired.
2. Once satisfied, set some or all tracks to **WRITE**.
3. Put the DAW in play, it will record an initial mix pass on armed tracks. When stopped, recorded tracks will toggle automatically to **READ**.
    - Tip: Pro Tools has a "write automation to the end" button in its automation window.
4. Repeat steps 2 and 3 until a first mix pass is recorded to all tracks.
5. Audition new adjustments before writing them by toggling between **READ** and **OFF**.
6. Set the automation mode to **TOUCH** to adjust the mix.
7. Once the mix is nearly finalized, use **TRIM** to make adjustments such as "Guitars down 2 dB everywhere" without changing existing automation moves.
    - Tip: Toggling between **READ** and **TRIM READ** allows multiple revisions in a same session. For example, if all **TRIM** tracks are set to to +2 dB, punching in only the vocals to **TRIM READ**, while keeping the rest in **READ** will result in a "vocals up mix". The same principle can be used to create "guitars up", "drums up", etc. without requiring additional session versions.