Two notes Capture Studio

Standalone Offline Amplifier Capture Engine

The complete electronic version of this manual, and the related GENOME software application, are subject to updates without notice. To download the most up-to-date manual for GENOME - alongside user guides for all Two notes Audio Engineering products - head over to the Two notes Audio Engineering website.

This manual describes the use, features and functionality of Two notes' GENOME Intro, GENOME and GENOME Suite plugins and standalone applications across Desktop and iOS, detailing comprehensive instructions for its intended operation. It is highly recommended that you read this document before using the software. The contents of this manual have been thoroughly verified and is believed, unless stated otherwise, to accurately describe the product at the time of download availability from the Two notes Audio Engineering website.

Foreword

1. Reader Warning

	Throughout this document, the triangle icon encasing an exclamation mark highlights important information concerning the correct use of GENOME alongside cautionary information pertaining to any peripheral equipment used in conjunction with GENOME.

2. Correct Use of a Loadbox

GENOME may be used either with real-time or prerecorded audio sourced from DI instrument feeds, guitar/bass preamplifiers, hardware amp simulators (Including ReVolt Guitar, ReVolt Bass, OPUS), and/or a tube/solid state amplifier in conjunction with a suitable loadbox (Including Two notes' Torpedo Captor, Torpedo Captor X, Torpedo Reload). While using a DI instrument feed or the line output of a preamplifier / amp simulator is comparatively safe and simple to administer, using the speaker output of a tube amplifier in conjunction with a loadbox requires caution.

For further information on safety and precautionary measures to be taken when using an amplifier and a Two notes Loadbox with GENOME, please refer to the related user guides accessible here: https://wiki.two-notes.com/doku.php?id=start

3. Minimum Software Requirements

The following details the minimum requirements recommended to run GENOME Intro, GENOME and GENOME Suite across desktop and iOS; in order to instantiate more effect blocks, improved/enhanced system specifications may be required.

GENOME Intro, GENOME & GENOME Suite Desktop Software Requirements

GENOME Intro, GENOME & GENOME Suite are available as standalone applications and VST3, AU, and AAX plugins; as such, for the aforementioned plugin variants, a Digital Audio Workstation (DAW) is required. GENOME has been extensively tested with the following mainstream DAWs:

- Pro Tools
- Apple Logic Pro X
- Ableton Live
- Steinberg Cubase
- Studio One
- Reaper

Windows 10 (64-bit) or Newer

- Intel i5 or AMD equivalent multi-core 64-bit processor
- 4GB RAM
- OpenGL 2.0 compatible GPU
- External ASIO compatible audio hardware highly recommended

macOS Catalina 10.15 or Newer

- Intel i5 or Silicon processor
- 4GB RAM
- Metal compatible GPU
- External Core Audio compatible audio hardware highly recommended

GENOME Intro, GENOME & GENOME Suite iOS Software Requirements GENOME Intro, GENOME & GENOME Suite are available as standalone applications on compatible iOS devices with the following

minimal system requirements:

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Introducing Two notes Capture Studio

Introducing Two notes Capture Studio — a free, standalone capture platform built for zero-compromise neural amplifier capture. Capture and generate precision static NAM captures and advanced multi-parametric (AmpNet) models fully offline — with the system executing stimulus generation, measurement, and model computation locally — no cloud processing, no external dependencies.

Static NAM files load into any environment that supports NAM playback, including GENOME's CODEX component. AmpNet captures deploy exclusively inside GENOME through the PARADEX component — unlocking dynamic, control-aware amplifier modeling through an industry-first system for user generated multi-parametric amp capture.

Capture and model within a single unified environment — one workflow, one platform, no fragmentation. This user guide provides a step-by-step overview of the main areas of the application and explains how to prepare your system, complete capture sessions correctly, and achieve reliable, repeatable results.

Whether you are creating a fixed snapshot model or a more flexible parametric capture, this guide is intended to help you work confidently and consistently throughout the process.

1. Preparing Your Capture Setup

Before starting a capture session, ensure your audio interface, routing, levels, and target amplifier are correctly configured. Capture accuracy depends heavily on a stable and controlled signal path.

	Use a reliable audio interface with appropriate input/output routing configured for re-amping and recording. Verify that all connections are secure and free from noise or interference, including cables, load boxes, and any intermediary hardware.
	Set input and output levels carefully. Avoid clipping at any stage of the signal chain while maintaining a strong, consistent signal. Proper gain staging is critical — excessive noise or distortion introduced at this stage will directly impact capture quality.

	Ensure your amplifier is operating under stable conditions. If using a reactive load, confirm it is correctly connected and matched to the amplifier's requirements. Disable any unnecessary processing (such as effects, noise gates, or modulation) unless they are intentionally part of the capture.
	Finally, confirm that your monitoring setup allows you to clearly evaluate the signal without introducing additional coloration or latency.

The following equipment is required to perform a capture with Two notes Capture Studio:

- A computer running Two notes Capture Studio
- An audio interface with a minimum of two inputs and two outputs
- A reamp box
- The amplifier being captured
- A suitable loadbox, reactive load, or DI solution
- Either headphones or speakers for monitoring purposes
- Appropriate cabling for all signal connections

The following connections are required:

- Audio interface output → reamp box
- Reamp box → amplifier input (instrument cable)
- Amplifier speaker output → loadbox/reactive load (speaker cable only)
- Loadbox/DI output → audio interface input (XLR or TRS, depending on the device)

2. Two notes Capture Studio Software Activation

Two notes Capture Studio is a free application available for download from the Two notes Downloads page: https://www.two-notes.com/en/downloads/ To access and activate the software, a valid Two notes user account is required. Upon signing in to Two notes Capture Studio at startup, the associated software licenses are automatically assigned to your account. If you do not already have a Two notes account, you can create one for free here: https://www.two-notes.com/en/my-two-notes/?section=dashboard

3. The Home Page

Upon login to Two notes Capture Studio, the user is presented with the Home Screen. The Home Screen is the starting point of the application. From here, you can create a new Parametric (AmpNet) or Snapshot (NAM) capture project, open an existing project, or review recent projects. The following controls are available to navigate the Home Screen:

- **Create a New Project** - Create a new parametric or snapshot capture project using the corresponding “Create” buttons and begin the capture workflow.
- **Open Existing Project** - Opens your system’s file browser, allowing you to locate and load previously saved project files in .capstudio format.
- **Recent Projects** - Displays a list of recently opened projects for quick access; selecting a project from this list will open it directly.
- **Clear List** - Clears the Recent Projects list; please note, this does not delete any project files from your system.
- **Help (?) Icon** - Provides access to support documentation and feature information.

Returning to the Home Screen

The Home Screen can be accessed at any time by closing the active project:

- From the Project Dashboard: click Close Project
- From Capture, Training, or Testing windows: first return to the Project Dashboard using the Back or Close button, then click Close Project

	Please note, when closing a project, all project data is saved automatically throughout the capture and training process, including the following information:
	Capture Data: Each completed capture is saved immediately to the active project
	Training Progress: Training is saved incrementally using checkpoints at each stage

If a session is interrupted, reopening the project allows you to continue from the last saved state. No completed captures or training progress are lost.

4. Settings

The Settings page is used to configure audio routing and training performance. It is recommended to review and configure these settings before starting any capture project to ensure correct operation and optimal results. The page can be accessed from the Project Dashboard via the Configure Audio button, or from the gear icon in the top right of the application. It contains two tabs: Audio and Training.

4.1 The Audio Tab

The Audio tab provides the following settings/options for configuring audio device selection and signal routing:

- **Audio Device** - Select the audio interface used for the capture session. All available system devices are listed in the drop-down menu. Choose the interface that provides the required loopback and capture connections.
- **Output Pair** - Output Pair - Select the audio interface outputs to be used for auditioning finished models. If your audio interface has more than one pair of outputs, it is recommended to use an available additional output pair for auditioning. This allows the capture and loopback cabling to remain connected while the finished models are auditioned through monitors or headphones. For audio interfaces with only 2 outputs, the capture or loopback cabling should be

connected to monitors or headphones when auditioning the models.
- **Loopback** - The Loopback path is used for round-trip latency measurement. The output sends a reference signal from Capture Studio, and the input receives it via a loopback connection between an output and input on the interface. Set the Output and Input channels to match your physical loopback routing.
- **Capture** - The Capture path carries the signal through the amplifier. The output sends the test signal to the device under test, and the input receives the processed signal returning from the signal chain. Set the Output channel to the interface output connected to the re-amp box / amplifier input, and the Input channel to the return from your loadbox, DI, or other safe output path.

	The Loopback and Capture paths must use separate channel pairs. Do not assign the same channel to both.

4.2 The Training Tab

The Training tab contains the following settings/options for configuring training performance and hardware acceleration:

- **Accelerator** - Select the hardware used for training. Available options depend on your system configuration. Where supported, GPU acceleration is recommended and will significantly reduce training time compared to CPU.
- **GPU Device** - When GPU is selected, choose the specific device from the drop-down menu. On Apple Silicon systems, this appears as MPS (Apple GPU). On Windows systems, the installed graphics card will be listed.
- **Test** — Estimating Training Duration - Click Test to run a short performance benchmark on the selected device. Capture Studio performs a temporary training pass and reports processing speed in iterations per second (it/s). This process does not affect project data. Use this result to estimate overall training time before starting a full run. Higher it/s values indicate faster performance. If results are lower than expected, confirm the correct accelerator and device are selected and ensure no other intensive processes are running.

5. Parametric Captures

5.1 Setting Up Your Parametric Capture Project

Selecting the Parametric Capture option from the Home Screen launches the guided workflow for creating multi-parametric AmpNet amplifier captures (detailed below).

5.1.1 Model Info

Upon starting the Parametric capture workflow, you will be prompted to configure the model’s

metadata and routing type. These settings are stored with the project and are used to identify the capture within your library. The following options are available in this window:

- **Model Name** – Enter a descriptive name that matches your physical device. This name is displayed in your project list and included in exported files.
- **Device Type** – Select Amp / Loadbox / DI. A brief description of the routing for each type is displayed beneath the menu.
- **Capture Type** – Displays the model format to be generated. For parametric captures, this is the AmpNet model.
- **Tags** – Select one or more tags — Clean, Crunch, High Gain, Vintage, Modern — to describe the tonal character of the device.
- **Notes (Optional)** – Add session notes, amp settings, or signal chain details. These are stored with the project but are not included in the exported model.

Once all required fields are completed, click Continue to proceed or Cancel to return to the Home Screen.

5.1.2 Knob Layout

After entering the model information, the next step in the capture workflow is to define the physical controls on your device.

The Device Knobs page is used to add the knobs that will appear on the finished AmpNet model. Each knob added here represents a continuous control on the original device and will be shown as part of the model's user interface.

Click "+ Add" to add a new knob to the project. A device can contain up to 12 knobs. The counter below the page title shows how many knobs have been defined.

The information bar at the bottom of the page updates automatically as knobs are added. It displays the required number of captures and the estimated total capture time for the current project.

	Note: The AmpNet format supports continuous controls only. Switch-based parameters, such as bright, boost, voicing switches, channel selectors, standby switches, or power switches, should not be added as knobs. If a switch changes the tone or gain structure of the device, each switch state should be captured as a separate project.

Adding Knobs

Click "+ Add" to open the Add Knob window. Select the category that best matches the function of the physical control on the device being captured. The available knob categories are:

- **Input Stage** - Controls applied before the preamp section.
- **Gain (one per model)** - Gain, Drive, Distortion, or similar nonlinear gain controls. Only one Gain control can be assigned per model.
- **Tonestack** - Tone-shaping controls such as Bass, Mid, Treble, or similar EQ controls.
- **Graphic EQ** - Graphic equalizer controls such as band gain, band frequency, or similar dedicated EQ controls.
- **Master (one per model)** - Master, Volume, Output, or similar final level controls. Only one

Master control can be assigned per model.
- **Poweramp** - Power amp shaping controls such as Presence, Depth, Resonance, or similar controls.

After selecting the correct knob category, click Next to continue. Click Cancel to return to the Device Knobs page without adding a knob.

	Only include controls that directly shape the core tone of the captured device. Do not include reverb levels, effects loop controls, channel selectors, or other controls that are not part of the continuous tone-shaping behavior of the model.

Knob Order and Preview

The order of the knobs defines how the controls are visually represented in the finished model. Arrange the knobs in the order you want them to appear on the model's control panel. Use the grip handle "⁞" to drag and rearrange each control. The preview updates as knobs are added, removed, or reordered.

Adding and Removing Knobs

Click "+ Add" to add a new control. Use the exact label printed on your device's front panel wherever possible. Click "×" to remove a control.

Knob Preview and Capture Estimate

The preview panel updates in real time as controls are added, removed, or reordered. The information bar below displays the required number of captures and the estimated total session time. When satisfied, click Create Project to proceed.

	For details on how capture duration is calculated, refer to the Settings section.

5.2 The Project Dashboard

Once the project is created, Capture Studio opens the Project Dashboard. This is the main workspace for the capture and training process. It provides access to all key elements, including model information, audio routing status, capture progress, and training controls.

5.2.1 Safety Warnings — Read Before Capture

	Never connect an amplifier’s speaker output directly to an audio interface input. The speaker output carries high voltage and current that will immediately and permanently damage the input stage of the audio interface. Always use a loadbox or DI box rated for your amplifier’s power output and impedance.
	Match the impedance of the load to the amplifier’s speaker output. An 8-ohm output must be connected to an 8-ohm load. An impedance mismatch on a valve amplifier can cause overheating and may damage the output transformer.
	Set audio interface input gain conservatively before starting capture. The loopback and capture signals must not clip at any stage. Clipping corrupts the training data and results in inaccurate models. Aim for peak levels around −18 dBFS to maintain adequate headroom. Configure the source device being captured to its highest expected output level. This may require setting gain, volume, and output controls to their maximum positions. This ensures sufficient headroom is available throughout the entire capture process and helps prevent clipping at later stages.
	Do not change amplifier settings during capture. All controls must remain fixed for the duration of each capture. Any adjustment during a capture will invalidate the take.

5.2.2 The Dashboard Layout

The Project Dashboard provides the following panels and controls:

- **Model Info Panel** - Displays a summary of the model, including device type, tags, and the full control list. Click Edit to return to the Model Info screen and make changes before capture begins. Editing is not available once a capture has started.
- **Capture Panel** - Manages audio routing and the capture session for the current project. When the interface is detected and routing is correctly configured, the status displays “READY TO CAPTURE” in green. The counter tracks completed captures against the total required. Routing indicators confirm the loopback and capture signal paths — both of which must be active and free from noise before starting.
- **Configure Audio** - Opens the system audio settings with options to select the interface, sample rate, loopback input, and capture input. Routing must be correctly configured before the Start Capture button becomes available.
- **Training Panel** - Locked until all required captures for the current project are complete. Once the capture counter reaches the total, the panel unlocks and Start Training becomes available. Similarly, the Export Model option remains locked until training has completed successfully.

5.2.3 Starting Your Capture

When the system status displays READY TO CAPTURE and all levels are correctly set, click Start Capture to launch the capture-centric guided workflow. Capture Studio will guide you through each

step of the capture sequence. Do not adjust any settings until the level check is complete and the capture stage has begun. The capture counter increments after each successful take. If a take fails or is flagged as noisy, Capture Studio will notify you and prompt a recapture before continuing.

5.3 Level Check

Before capture begins, Capture Studio performs a level check to verify that signal levels are within the correct range. This screen displays live meters for both the Loopback and Capture channels. The level check must be passed before proceeding to the capture stage.

5.3.1 What the Level Check Measures

- **Loopback** - The Loopback meter displays the level of the reference signal sent from Capture Studio through your audio interface and returned to the input. The recommended range is −12 to −3 dB. This signal is generated internally and does not require adjustment on your amplifier. If the level falls outside this range, check your interface routing and output level settings.
- **Capture** - The Capture meter displays the level of the signal returning from your amplifier to the capture input of your audio interface. The recommended range is −18 to −6 dB. Adjust the interface input gain until the meter consistently reads within this range.

	Do not allow the Capture input to clip. Any clipping will corrupt the recording and result in an inaccurate model. If the meter reaches 0 dB, reduce the interface input gain before proceeding.

5.3.2 Passing the Level Check

Capture Studio continuously monitors both signals during the level check. When both channels are within their recommended ranges, the Level Check Passed indicator will appear in green. Click Continue to proceed.

	If either meter is out of range, adjust your levels and wait until both channels are stable and the indicator confirms a pass. Click Stop to pause the signal or Back to return to the previous screen.
	All controls must be set to position 5 before running the level check. The levels established here must remain unchanged for the duration of the capture session.

5.3.3 Proceeding with the Capture

When the level check passes and you click Continue, a confirmation dialog is displayed: After continuing, volume settings must not be adjusted. Click Yes only when your amplifier and interface levels are fully set and will remain unchanged. Click No to return to the level check screen and make further adjustments.

	Once you enter the capture stage, do not adjust your interface gain, amplifier output, or any other level controls.

5.4 Capture

The capture stage is the primary recording phase of the parametric capture workflow. Capture Studio guides you through each knob on your device in sequence. For each knob, 11 captures are performed — one at each position from 0 to 10. All other knobs must remain set to noon (5) throughout the process.

5.4.1 The Capture Screen Interface

The Capture Screen provides real-time guidance and visual confirmation for each step of the parametric capture process. The following elements are displayed:

- **Active Knob and Step** - The header indicates which knob is currently being captured and the current step. For example, “Capture: Gain — Step 1 of 11” means the Gain knob is being recorded at its first position. The counter in the top right shows overall progress across all knobs.
- **Instructions Panel** - Three numbered instructions are displayed for each step. Follow them in sequence before clicking Start Capture.
- **Knob Positions Panel** - Displays all knobs with their current positions. The active knob is highlighted in blue at the target position, while all other knobs should remain at noon (5). Use this panel to confirm your physical settings match the on-screen display before each capture.
- **Level Meters** - The In and Out meters display real-time signal levels during capture. Both must remain within the ranges established during the level check. If either meter deviates, stop and investigate before continuing.

5.4.2 Executing a Capture

Set the active knob to the position shown on screen and confirm all other knobs are set to noon (5). Click Start Capture and wait for the process to complete.

	Do not adjust any knobs, your amplifier, or your audio interface while the progress bar is active.

The progress bar indicates the status of the current capture. During each take, on-screen warnings — “Do not move any knobs while capturing” and “Re-recording any capture will reset all training data” — are displayed as continuous reminders.

If it is necessary to stop the process, click Cancel Capture. Previously completed captures will be retained; however, any interrupted capture step must be repeated before proceeding.

5.4.3 Validating a Capture

When an individual knob capture is completed, the progress bar turns green and the “Capture Finished” dialog is displayed along with the prompt: “Do you validate this capture?”

Click Yes to accept the capture and proceed to the next step. Click No to discard the take and repeat the capture. Select No if any control was adjusted, if unwanted noise was present, or if the result is in any way uncertain.

	It is strongly recommended to repeat a capture immediately rather than proceed with a compromised take, as this will affect the accuracy of the final model.

5.4.4 Navigating Between Capture Steps

Use Prev to return to the previous capture step if required. Use Skip to bypass the current step and proceed without recording.

	Skipping a step is not recommended. Omitting positions within a knob’s sequence will result in gaps in the model’s response at those settings, reducing overall accuracy.

5.4.5 Capture Sequence Completion

When all captures are complete, the header displays “All Captures Completed” in green, and the overall counter reflects the full total of captures required for the Parametric Model. Click Done to proceed to the training stage.

5.5 Training

Once all captures are complete and you click Done, Capture Studio enters the training stage. During this phase, the model is generated from the captured audio data. The process runs entirely locally and requires no user interaction while in progress.

5.5.1 Training Stages

The progress indicator at the top of the Training window displays three stages: Preparing, Training, and Export. The Preparing stage completes quickly. Training is the primary processing phase and accounts for the majority of the total processing time.

5.5.2 The Training Panel

The Training Panel provides real-time visibility into the model training process, including progress, performance metrics, and system activity. It enables monitoring of training status and validation of model accuracy throughout the process. The Training Panel displays the following information:

- **Progress and Time Estimate**: The Training panel displays the current epoch, total epochs, and the estimated time remaining. For a standard parametric capture, the default training run is 100 epochs. The time estimate updates continuously and becomes more accurate after the initial epochs.
- **Metrics**: The Metrics panel displays Current ESR, Best ESR, Loss, and Speed. ESR (Error-to-Signal Ratio) is the primary indicator of model accuracy — lower values indicate a more accurate result. Best ESR reflects the lowest value achieved during training. A consistent decrease in ESR and Loss indicates stable training progression.
- **Checkpoints**: Checkpoints are saved automatically throughout training. The Checkpoints panel lists recent saves, including epoch number, ESR value, and timestamp. If training is interrupted, it can be resumed from the most recent checkpoint.
- **Log Output**: The Log panel displays a real-time record of training activity, including checkpoint creation and estimated completion time.

5.5.3 Precautions During Training

	Do not close Capture Studio or disconnect your device while training is in progress. Interrupting the process before a checkpoint is saved may result in loss of progress and require the training run to be restarted.

No user interaction is required while training is in progress. Once training is complete, the Export stage becomes available. Click Stop Training only if it is necessary to halt the process. Training can be resumed from the most recent checkpoint.

5.6 Exporting an AmpNet Model

Once training is complete, the Export screen becomes available from the Project Dashboard. This stage allows you to evaluate the trained model before exporting. The model is fully interactive — controls can be adjusted in real time to assess the response prior to export.

5.6.1 Testing the Model Prior to Export

The following tools are provided to test and validate the model prior to export:

Knobs Panel

The Knobs panel displays all controls defined in the knob layout, each with an adjustable dial. The model responds in real time to these adjustments. Use this panel to confirm that each knob behaves correctly across its full range.

Cabinet Panel

The Cabinet panel allows you to use built in impulse response (IR) for auditioning with cabinet simulation. Click the down arrow to select a 48 kHz WAV file. You can use the output slider to adjust output level. Use the Enabled toggle to switch the IR on or off and compare the direct model output with the processed signal.

	Adjust controls during playback to verify response, tonal accuracy, and overall behaviour before export.

5.6.2 Exporting the Model

When the model has been fully validated, click Save Model to export. Capture Studio saves the trained model file to your selected location. The exported file is ready for use in any compatible host application or hardware that supports the AmpNet format - including GENOME’s PARADEX Component.

	The exported file contains the model only. Any cabinet IR used during testing is not included and must be loaded separately in your host environment.

Click Close to return to the Project Dashboard without exporting. All project data and training results are preserved, and the Export screen can be accessed again at any time.

6. NAM Snapshot Captures

A NAM Snapshot Capture represents your device in a single, fixed state. Unlike a parametric capture, there are no controls to define or positions to sweep. Set your amplifier exactly as desired, perform a single capture pass, and the result is a NAM model of that specific configuration. The workflow is shorter, and the capture process consists of a single take.

As the model reflects a fixed state, it does not respond to virtual control adjustments in a host environment. All tonal decisions must be made prior to capture. Take time to dial in the amplifier carefully, and once set, do not adjust any controls until the capture is complete.

6.1 Setting Up Your NAM Snapshot Capture Project

Selecting the Snapshot Capture option from the Home Screen launches the guided workflow for creating static NAM captures (detailed below).

6.1.1 6.1.1. Model Info

Upon starting a NAM Snapshot Capture, you will be prompted to configure the model's metadata and routing type. These settings are stored with the project and are used to identify the capture within your library. The following options are available in this window:

- **Model Name** – Enter a descriptive name that matches your physical device. This name is displayed in your project list and included in exported files.
- **Device Type** – Select Amp / Loadbox / DI, Preamp / DI, or Pedal / FX. A brief description of the routing for each type is displayed beneath the menu.
- **Capture Type** – Displays the model format to be generated. For snapshot captures, this will be one of the NAM model formats available in the dropdown list.
- **Tags** – Select one or more tags — Clean, Crunch, High Gain, Vintage, Modern — to describe the tonal character of the device.
- **Notes (Optional)** – Add session notes, amp settings, or signal chain details. These are stored with the project but are not included in the exported model.

Once all required fields are completed, click Continue to proceed or Cancel to return to the Home Screen.

6.2 The Project Dashboard

After completing the Model Info stage, Capture Studio opens the Project Dashboard. The layout is consistent with the parametric workflow; however, there is no Knob Layout step. The workflow proceeds directly from Model Info to the dashboard, ready for audio configuration and capture.

6.2.1 Safety Warnings — Read Before Capture

	Never connect an amplifier’s speaker output directly to an audio interface input. The speaker output carries high voltage and current that will immediately and permanently damage the input stage of the audio interface. Always use a loadbox or DI box rated for your amplifier’s power output and impedance.
	Match the impedance of the load to the amplifier’s speaker output. An 8-ohm output must be connected to an 8-ohm load. An impedance mismatch on a valve amplifier can cause overheating and may damage the output transformer.
	Set audio interface input gain conservatively before starting capture. The loopback and capture signals must not clip at any stage. Clipping corrupts the training data and results in inaccurate models. Aim for peak levels around −18 dBFS to maintain adequate headroom.
	Do not change amplifier settings during capture. All controls must remain fixed for the duration of each capture. Any adjustment during a capture will invalidate the take.

6.2.2 The Dashboard Layout

The Project Dashboard provides the following panels and controls:

- **Model Info Panel** - Displays a summary of the model, including device type, tags, and the full control list. Click Edit to return to the Model Info screen and make changes before capture begins. Editing is not available once a capture has started.
- **Capture Panel** - Manages audio routing and the capture session for the current project. When the interface is detected and routing is correctly configured, the status displays “READY TO CAPTURE” in green. The counter tracks completed captures against the total required. Routing indicators confirm the loopback and capture signal paths — both of which must be active and free from noise before starting.
- **Configure Audio** - Opens the system audio settings with options to select the interface, sample rate, loopback input, and capture input. Routing must be correctly configured before the Start Capture button becomes available.
- **Training Panel** - Locked until all required captures for the current project are complete. Once the capture counter reaches the total, the panel unlocks and Start Training becomes available. Similarly, the Export Model option remains locked until training has completed successfully.

6.2.3 Starting Your Capture

When the system status displays READY TO CAPTURE and all levels are correctly set, click Start

Capture to launch the capture-centric guided workflow. Capture Studio will guide you through each step of the capture sequence. Do not adjust any settings until the level check is complete and the capture stage has begun.

The capture counter increments after each successful take. If a take fails or is flagged as noisy, Capture Studio will notify you and prompt a recapture before continuing.

6.3 Level Check

Before capture begins, Capture Studio performs a level check to verify that signal levels are within the correct range. This screen displays live meters for both the Loopback and Capture channels. The level check must be passed before proceeding to the capture stage.

6.3.1 What the Level Check Measures

- **Loopback** - The Loopback meter displays the level of the reference signal sent from Capture Studio through your audio interface and returned to the input. The recommended range is −12 to −3 dB. This signal is generated internally and does not require adjustment on your amplifier. If the level falls outside this range, check your interface routing and output level settings.
- **Capture** - The Capture meter displays the level of the signal returning from your amplifier to the capture input of your audio interface. The recommended range is −18 to −6 dB. Adjust the interface input gain until the meter consistently reads within this range.

	Do not allow the Capture input to clip. Any clipping will corrupt the recording and result in an inaccurate model. If the meter reaches 0 dB, reduce the interface input gain before proceeding.

6.3.2 Passing the Level Check

Capture Studio continuously monitors both signals during the level check. When both channels are within their recommended ranges, the Level Check Passed indicator will appear in green. Click Continue to proceed.

	If either meter is out of range, adjust your levels and wait until both channels are stable and the indicator confirms a pass. Click Stop to pause the signal or Back to return to the previous screen.

6.4 Capture

After successfully passing the Level Check, you are directed to the Capture page, where the snapshot capture process is initiated. A NAM Snapshot Capture consists of a single recording pass. There is only one step — no control sweeps or multi-position sequences. The amplifier must already be set to the

desired configuration. Click Start Capture and wait for the process to complete.

6.4.1 The Capture Screen Interface

The Capture Screen provides real-time guidance and visual confirmation for each step of the parametric capture process. The following elements are displayed:

- **Step and Progress** - The header indicates the current stage of the capture. For snapshot captures, the step counter displays 1 of 1, reflecting the single-pass workflow.
- **Instructions Panel** - Three numbered instructions are displayed for each step. Follow them in sequence before clicking Start Capture.
- **Knob Positions Panel** - A set of instructions is displayed to guide you through setup for the capture; in the instance of a Static Snapshot, this messaging focuses on setting your Amplifier's knobs to the desired positions.
- **Level Meters** - The In and Out meters display real-time signal levels during capture. Both must remain within the ranges established during the level check. If either meter deviates, stop and investigate before continuing.

6.4.2 Validating a Capture

When the progress bar turns green, the "Do you validate this capture?" dialog is displayed. Click Yes to accept the capture and proceed to training. Click No to discard the take and repeat the capture. If any noise, interference, or unexpected artefacts are detected, the capture should be repeated.

	Snapshot captures cannot be partially corrected. Unlike parametric workflows, where individual steps can be re-recorded, a snapshot capture is a single recording. If any issue occurs during the pass — including noise, interference, or signal disruption — the entire capture must be discarded and repeated.

6.5 Training

Once the NAM Capture is complete and you click Done, Capture Studio enters the training stage. During this phase, the model is generated from the captured audio data. The process runs entirely locally and requires no user interaction while in progress.

6.5.1 Training Stages

The progress indicator at the top of the Training window displays three stages: Preparing, Training, and Export. The Preparing stage completes quickly. Training is the primary processing phase and accounts for the majority of the total processing time.

6.5.2 The Training Panel

Use the Train page to configure and start the neural amp model training process using the captured audio data.

For Static Snapshot Capture projects, the Snapshot Training Settings panel allows you to select the model architecture, training length, and optional hardware level metadata before starting training.

If the Snapshot Training Settings panel is not displayed when you first open the Train page, click Start Fresh on the training screen to create a new training setup.

Architecture

Select the model architecture to be used for snapshot training. The selected architecture determines the model structure used during training. For most users, the default Standard architecture should be used unless a different architecture is specifically required.

Max Epochs

Select the maximum number of training epochs. This value defines the upper limit for the training process. Higher values allow the model to train for longer, but may also increase total training time.

Send Level (dBu)

Enter the measured send level used during the snapshot capture, if available. This field is optional, but can be used to store the hardware output level used when sending the test signal from the audio interface.

Return Level (dBu)

Enter the measured return level used during the snapshot capture, if available. This field is optional, but can be used to store the hardware input level measured from the returning captured signal.

	Send and Return levels are optional. However, if one level is entered, the other is also required. When resuming training from an existing training state, Capture Studio will continue using the settings saved in that training state.

Click Start Training to begin training the model using the captured audio data. Use Back to return to the previous step without starting training.

The Training Panel provides real-time visibility into the model training process, including progress, performance metrics, and system activity. It enables monitoring of training status and validation of model accuracy throughout the process. The Training Panel displays the following information:

- **Progress and Time Estimate**: The Training panel displays the current epoch, total epochs, and the estimated time remaining. For a NAM capture, the default training run is 100 epochs. The time estimate updates continuously and becomes more accurate after the initial epochs.
- **Metrics**: The Metrics panel displays Current ESR, Best ESR, Loss, and Speed. ESR (Error-to-Signal Ratio) is the primary indicator of model accuracy — lower values indicate a more

accurate result. Best ESR reflects the lowest value achieved during training. A consistent decrease in ESR and Loss indicates stable training progression.

- **Checkpoints**: Checkpoints are saved automatically throughout training. The Checkpoints panel lists recent saves, including epoch number, ESR value, and timestamp. If training is interrupted, it can be resumed from the most recent checkpoint.
- **Log Output**: The Log panel displays a real-time record of training activity, including checkpoint creation and estimated completion time.

6.5.3 Precautions During Training

	Do not close Capture Studio or disconnect your device while training is in progress. Interrupting the process before a checkpoint is saved may result in loss of progress and require the training run to be restarted.

Training time for a snapshot capture is typically shorter than for a parametric capture due to the smaller dataset. The total duration will vary depending on system performance. Use the Test function in the Training tab of the Settings Menu to benchmark your system and estimate training time before starting a full run.

No user interaction is required while training is in progress. Once training is complete, the Export stage becomes available. Click Stop Training only if it is necessary to halt the process. Training can be resumed from the most recent checkpoint.

6.6 Exporting a NAM Model

Once training is complete, the Export screen becomes available from the Project Dashboard. This stage allows you to evaluate the trained model before exporting.

6.6.1 Testing the Model Prior to Export

The following tools are provided to test and validate the model prior to export:

Cabinet Panel

The Cabinet panel allows you to select built in impulse response (IR) for auditioning with cabinet simulation. Click the down arrow button to select an IR file. Use the Enabled toggle to switch the IR on or off and compare the direct model output with the processed signal. You can use the output slider to adjust levels.

	The IR is used for auditioning only and is not included in the exported model.

Audio Playback

Click Select WAV File to load a DI guitar recording. Select the desired audio device and output pair, then click Play. The model processes the DI signal in real time using the pre-selected cabinet settings.

6.6.2 Exporting the Model

When the model has been fully validated, click Save Model to export. Capture Studio saves the trained model file to your selected location. The exported file is ready for use in any compatible host application or hardware that supports the NAM format.

	The exported file contains the model only. Any cabinet IR used during testing is not included and must be loaded separately in your host environment.

Click Close to return to the Project Dashboard without exporting. All project data and training results are preserved, and the Export screen can be accessed again at any time.

Technical Support

Should you encounter a problem with your product or need general assistance regarding your purchase, Two notes Audio Engineering has developed an on-line service to provide you with fast and efficient technical support, the Two notes Help Desk. Here you can submit a ticket and a member of our support team will be glad to assist you in your enquiry.

In addition, for common questions and general reference, don't hesitate to browse the Knowledgebase.

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Looking for more information about Two notes Audio Engineering? Your first port of call is the Two notes website. Here you will find:

- News about the company and our product portfolio
- Comprehensive information about GENOME
- Firmware & software updates across the entire Two notes product portfolio
- Access to the Two notes Store where you can buy new DynIR™ Virtual Cabinets
- An official forum where you can share tips and advice with other Torpedo users.

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You can also follow us on Facebook, Instagram and Twitter - we also have a group on Facebook where customers from all over the world get together to discuss gear and tone, would be great to see you there!

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