Feedback Guardian AI

Clean Bleed · Clear Resonance · Cut Feedback

"Pure Audio · Zero Latency · Fully Automatic."

User Manual

Feedback Guardian AI — Upbeat Engine

Plug-in (AU · VST3) · Mac App · iPad App · iPhone App

Version 1.0.0 · September 2026

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1. The four editions

All four editions of Feedback Guardian AI run the same processing engine. They differ in how many channels they handle and how you deploy them. Every edition adds 0 ms of latency and supports sample rates from 44.1 kHz to 96 kHz.

Item	Plug-in	Mac App	iPad App / iPhone App
Format	AU + VST3 (64-bit)	Standalone macOS app	Standalone iPadOS / iOS app
Channels per instance	1 (mono in · mono or stereo out)	8	4 (iPad) 2 (iPhone)
Used with	A DAW or plug-in host	Audio Interface or Direct to Mixer	Audio Interface or Direct to Mixer
Main controls	Wet/Dry · Bypass	Per channel: ON/OFF · name · Auto Mix · Wet/Dry, plus a Weight fader	Same as the Mac App
Auto Mix (automatic speaker-priority gain sharing)	No	Yes	Yes
Built-in routing	Handled by the host	Yes (per-channel input and output ports)	Yes
Saving settings	Stored by the host with the project	Save Session presets	Save Session presets
Added latency	0 ms	0 ms	0 ms

> The plug-in takes a mono input, so one instance looks after one microphone. For several microphones, insert one instance per channel in your DAW. The Mac, iPad and iPhone apps handle several microphones in a single instance and add Auto Mix on top.

2. System requirements

Platform	Requirement
Mac — CPU	Apple Silicon (M1 or newer) or Intel x86_64 · one Universal Binary covers both
Mac — Operating system	macOS 10.13 (High Sierra) or newer · macOS 12 (Monterey) or newer recommended
Mac — Plug-in formats	AU · VST3 · Standalone
Windows — CPU	x64 · Intel Core i3-12100 (12th Gen) or newer, or AMD Ryzen 5 5000-series or newer (avoid Intel N-series: N100 / N200 / N305)
Windows — Operating system	Windows 10 64-bit or newer · Windows 11 · 32-bit hosts are not supported
Windows — Plug-in formats	VST3 · Standalone
iPad / iPhone	Apple A14 Bionic or newer · iOS / iPadOS 12 or newer · standalone app
All platforms	Sample rate 44.1 kHz – 96 kHz · 0 ms added latency

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3. Plug-in — Feedback Guardian AI

The plug-in has a single window. It resizes to whatever the host allows, and the whole layout scales together.

The plug-in window (AU / VST3)

#	Element	What it does
1	Product banner	Logo and product name
2	IN meter	Incoming signal level
3	OUT meter	Outgoing level after processing
4	dB readout	The level of each row in decibels; below –60 dB it reads ---
5	DRY — % — WET label	How much of the signal is processed
6	Wet/Dry slider	Drag to set 0–100 % · double-click to return to 100 % · at 0 % the input passes through bit-perfect
7	Bypass button	Switches all processing off; the button turns red when engaged

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ELEMENTS THAT APPEAR ONLY IN CERTAIN STATES

Version badge, top right — the plug-in version number.
License status badge, top left — shown only until the program is activated with a key (see chapter 8).
Red warning bar reading ENGINE OFF - SAMPLE RATE OUT OF RANGE appears when the host runs outside 44.1–96 kHz. The engine switches off and audio passes through unprocessed.

HOW TO USE IT

1. Insert the plug-in on a microphone channel in your DAW or host — one instance per microphone.
2. Check that the IN meter follows the real signal. If it does not move, check the channel's routing first.
3. Leave Wet/Dry at 100 % to start with; the engine is then working at full strength.
4. To reduce the amount of processing, drag the slider to the left — the difference comes back as unprocessed

signal.

5. Use Bypass for an instant before/after comparison.

PARAMETERS THE HOST CAN SEE (AVAILABLE FOR AUTOMATION)

Parameter	Range	Default
Bypass	Off / On	Off
Wet/Dry	0 – 100 %	100 %

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4. Mac App — 8 channels

The Mac App runs on its own — no DAW needed. Connect an audio interface and open the app. The screen has three areas: the meter strip at the top left, four utility buttons on the right, and the channel panel below.

The Mac App screen (8 channels)

#	Element	What it does
1	Product banner	The app logo
2	METERS label	Heading of the meter strip; the space to its right shows the license status badge or a warning
3	Error n · CPU% and status light	The number of dropouts since the counter was last cleared. Green = low load, amber = getting high, red = high or an error has occurred. Click the text to clear the counter.
4	dB scale	0 / –6 / –12 / –24 / –40 / –60

5	IN and OUT bars per channel	Input and output level of that channel
6	Weight fader	That channel's priority within Auto Mix, ±12 dB with 0 dB at the centre. Double-click to return to 0.
7	Auto Mix meter	How much gain sharing is currently pulling this channel down
8	IN / OUT readouts	That channel's levels in decibels
9	Save	Opens the preset window
10	Settings	Audio devices, sample rate and buffer size
11	Routing	Maps app channels to the physical ports of the interface
12	Bypass	Switches processing off on every channel; turns red when engaged
13	Channel number + ON/OFF	Press to put the channel back into STANDBY
14	Channel name	Double-click to rename; the defaults are MIC 1 to MIC 8
15	Pencil button	Renames the channel (same as double-clicking the name)
16	Auto Mix button	Takes the channel in or out of the gain-sharing group; on by default
17	Channel Wet/Dry slider	0 % = bit-perfect dry signal · 100 % = fully processed · double-click returns to 100 %
18	STANDBY card	A channel that is not in use. Tap anywhere on the card to switch it on.

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Selecting a channel

Click any channel card to select it. The selected card gets an amber outline, and that channel's meter column turns amber to match. On first launch only MIC 1 is active; the rest wait as STANDBY cards.

The three sub-windows

Settings

INPUT DEVICE / OUTPUT DEVICE — the audio interfaces in and out. The lists come from the hardware actually connected.
SAMPLE RATE — the rates your interface offers (the engine works between 44.1 and 96 kHz).
BUFFER SIZE — on a fresh install the app sets 512 samples. Smaller buffers mean less latency but a heavier CPU load.
Factory Reset — returns everything to the factory state, with a confirmation prompt first.

Routing

The heading shows how many physical ports are available, for example 8 in · 8 out.
Separate INPUT and OUTPUT sections, one selector per channel.

Choose NONE for a channel you are not using.
If the interface has many ports, the list is grouped into submenus such as Channels 1–16.

Save Session

PRESET NAME — type the preset name here.
SAVED PRESETS — the presets on disk. Default is always present and cannot be overwritten or deleted; loading it returns the app to the factory state.
Save · Save As · Load · Delete buttons.
Presets are stored in ~/Library/FeedbackGuardianAI/iPadPresets.xml (this filename is shared internally across every platform — it isn't an iPad-only file).

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5. iPad App — 4 channels

The iPad App uses the same engine and the same working method as the Mac App. It differs in channel count (four) and in a layout built for a landscape screen.

The iPad App screen (4 channels)

#	Element	What it does
1	**Product banner**	The app logo
2	**METERS label**	Heading of the meter strip; warnings appear to its right
3	**Error n · CPU% and status light**	As on the Mac App. Tap the text to clear the counter.
4	**IN and OUT bars per channel**	Input and output level of that channel
5	**Weight fader and Auto Mix meter**	Priority (±12 dB) and how much the system is pulling this channel down
6	**IN / OUT readouts**	That channel's levels in decibels
7	**Save**	Save and recall presets
8	**Settings**	Audio devices, sample rate, buffer size

#	Element	What it does
9	**Routing**	Maps channels to physical ports
10	**Bypass**	Switches processing off on every channel
11	**Channel number + ON/OFF**	Puts the channel back into STANDBY
12	**Channel name**	Double-tap to rename; the defaults are MIC 1 to MIC 4
13	**Pencil button**	Renames the channel
14	**Auto Mix button**	Takes the channel in or out of the gain-sharing group
15	**Channel Wet/Dry slider**	Runs the full width of the card, below the name row
16	**STANDBY card**	A channel that is not in use; tap to switch it on

How it differs from the Mac App

- Four channels in a 2×2 grid (the Mac App has eight, in two columns of four).
- The four utility buttons form a 2×2 block beside the meter strip (the Mac App stacks them in one column).
- The channel cards are taller, so the Wet/Dry slider moves to its own full-width row underneath the name.
- Settings, Routing and Save Session are identical to the Mac App.

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6. iPhone App — 2 channels

The iPhone App uses the same engine and the same working method as the Mac and iPad Apps. It differs in channel count (two) and in a layout built specifically for the iPhone's landscape screen — the meter panel sits on the left, the channel panel on the right, and the four utility buttons form one long row along the bottom.

The iPhone App screen (2 channels)

#	Element	What it does
1	Product banner	App logo and version badge
2	METERS label	Heading of the meter strip
3	Error n · CPU% and status light	As on the Mac and iPad Apps · tap the text to clear the counter
4	IN and OUT bars per channel	Input and output level of that channel
5	Weight fader and Auto Mix meter	Priority (±12 dB) and how much the system is pulling this channel down
6	IN / OUT readouts	That channel's levels in decibels
7	Save	Save and recall presets
8	Settings	Audio devices, sample rate, buffer size
9	Routing	Maps channels to physical ports
10	Bypass	Switches processing off on every channel
11	Channel number + ON/OFF	Puts the channel back into STANDBY
12	Channel name	Double-tap to rename; the defaults are MIC 1 and MIC 2
13	Pencil button	Renames the channel

14	Auto Mix button	Takes the channel in or out of the gain-sharing group
15	Channel Wet/Dry slider	0 % = bit-perfect dry signal · 100 % = fully processed

HOW IT DIFFERS FROM THE IPAD APP

> Two channels, stacked as single cards in one column (the iPad App has four, in a 2×2 grid).
> The meter panel sits on the left side of the screen and the channel panel on the right, instead of the meter strip running only along the top as on the iPad.
> Save · Settings · Routing · Bypass form one full-width row along the bottom, instead of a 2×2 block in the top-right corner as on the iPad.
> Settings · Routing · Save Session are identical to the Mac and iPad Apps · the default channel names are MIC 1 and MIC 2.

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7. Setting up for a real job

This sequence applies to the Mac, iPad and iPhone Apps.

#	Step	Detail
1	Connect the hardware before opening the program	Connect your audio gear — such as the audio interface, mixer and microphones — before you open the program. The Settings page should list every device from the start.
2	Set the device and Buffer	Open Settings and choose INPUT DEVICE, OUTPUT DEVICE and SAMPLE RATE to match the audio device you use (48 kHz recommended). Start the program at a BUFFER SIZE of 512, then test audio through the channels you'll actually use. If you don't hear crackling or pops/clicks, the CPU can handle that setting — step it down to 256, then 128.
3	Map the channels to real ports	Open Routing and set which input port feeds channels 1, 2, 3 … and which output port each one leaves by. Set unused channels to NONE.
4	Switch on only the channels you use	Channels you are not using are best left off, so they don't load the CPU for no reason.
5	Name the channels	Double-click (or double-tap) a name and type the real one — Host, Lead Vocal, Guest 1, and so on.
6	Check your levels	Speak or sing at performance level and watch the IN meter: aim for roughly −18 to −12 dB, adjusting the preamp on your audio device.
7	Adjusting Auto Mix	Turn Auto Mix on when your microphone Routing is set up as Direct 1:1. If Routing is set up as a Group that sums several microphones, turn Auto Mix off (the mixer icon light goes dark).
8	Setting the Weight	The Weight fader beside the meters adds weight to a microphone of special importance — one that must be heard first — and lowers the supporting microphones. Double-click to return to 0.
9	Set Wet/Dry	Start every channel at 100 %. If a channel needs a more natural sound, you can turn it down.
10	Save a preset	Open Save, name it after the show or the room, and press Save. The next job starts from there.

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8. Licensing and activation

Terms of the license keys sold

> One key registers on 3 machines.
> Perpetual — it does not expire.
> Covers Mac (app · AU · VST3) and Windows (app · VST3).

The on-screen status badge

The status badge sits in the top-left corner of the plug-in, and next to the word METERS in the Mac App. Once the program has been activated with a key, no badge appears at all.

Badge	Colour	Meaning	Audio
Demo Mode	Amber	The 7-day trial period, counted from first launch	Passes in full; every feature available
Trial Mode	Red	The 7 days are over and no key has been activated	Muted for 5 seconds every 55 seconds
No badge	—	Activated with a key — the full version	Passes in full, with no interruption

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Activating with a key

1. Open the program. The Activate Feedback Guardian AI window appears by itself.
2. Paste the key into the License key field and press Activate (Later skips it for now).
3. An internet connection is needed for this step — the key is verified against the server.
4. On success you get an Activated message and the status badge disappears.
5. If it fails, the Activation failed window states the reason — for example, that the key has already been registered on its full quota of machines.

If you entered the key but the connection dropped, simply reopen the program: the window comes back with the key you typed still in place, so you can press Activate again. The program does not require an internet connection during normal use on stage.

9. Troubleshooting

Symptom	Cause and remedy
ENGINE OFF - SAMPLE RATE OUT OF RANGE or ENGINE OFF - RATE is shown	The host or interface is running outside 44.1–96 kHz, so the engine has switched off and audio passes through unprocessed. Set the sample rate back into the supported range, for example 48 kHz.
The meters move but no sound comes out	Check in Routing that the channel is assigned to the output port your speakers are on, and make sure Bypass is not left engaged.
The IN meter does not move at all	The channel is still on STANDBY, its input routing is set to NONE, or the port selected is not the one the microphone is plugged into.
The Error count keeps rising / the audio stutters	The machine cannot keep up at the current buffer size. Raise BUFFER SIZE in Settings by one step, then click the Error text to clear the counter and see whether it climbs again.
The status light stays red although the sound is fine	The error counter latches the light red until it is cleared. Click Error n · CPU% to reset it.
The sound goes silent briefly about once a minute	The program is in Trial Mode (red badge) — the trial period has ended and it needs to be activated with a key.
The key was activated but the Demo Mode badge has not gone away	Reopen the program. If the badge is still there, verification did not succeed: enter the key again and read what the Activation failed window reports.

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The plug-in does not appear in the DAW's list	Check that it was installed into the system plug-in folder, then have the DAW rescan its plug-ins.

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10. Appendix

Factory defaults

Item	Value
Active channels	MIC 1 only; the rest are on STANDBY
Channel names	MIC 1 … MIC 8 (Mac App) · MIC 1 … MIC 4 (iPad App) · MIC 1 … MIC 2 (iPhone App)
Wet/Dry	100 % on every channel
Auto Mix	On for every channel
Weight faders	0 dB on every channel
Bypass	Off
Buffer size	512 samples on a fresh install

Where data is kept (macOS)

Application data folder: ~/Library/FeedbackGuardianAI/
Preset file: ~/Library/FeedbackGuardianAI/iPadPresets.xml (this filename is shared internally across every platform — it isn't an iPad-only file)
Factory Reset, or loading the Default preset, returns everything to the factory state.

Glossary

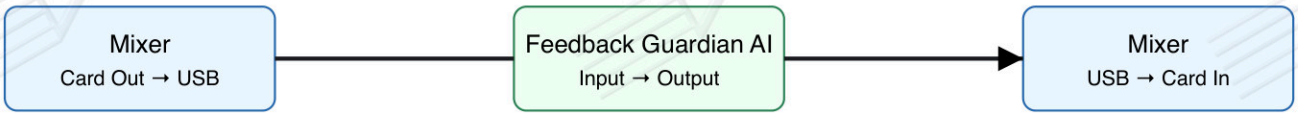
Term	Meaning
Wet / Dry	The balance between the processed signal (wet) and the raw one (dry). At 0 % the input passes through bit-perfect.
Auto Mix	Automatic speaker-priority gain sharing between the microphones in a group: a microphone nobody is speaking into is turned down by itself.
Weight	Each microphone's priority within the Auto Mix group. Raise it to give that microphone more gain than the others.
Buffer size	How many samples the interface hands over per processing pass. Fewer samples means less latency but a heavier CPU load.
Error (dropout)	The number of times the machine missed its processing deadline, which breaks the audio.
STANDBY	The state of a channel that has not been switched on.

Feedback Guardian AI [StandAlone] Setup Guide with the Midas M32 Mixer

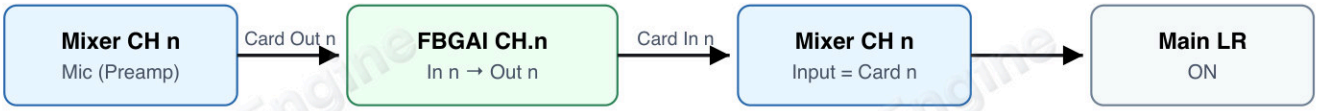
Setup Overview · Connecting the App and the Midas M32 Mixer

The simplest basic connection between Feedback Guardian AI and the mixer is over USB (Card): the mixer sends audio out through the Card into the app, and the app sends the processed audio back into the mixer through the Card. There are 3 recommended connection setups:

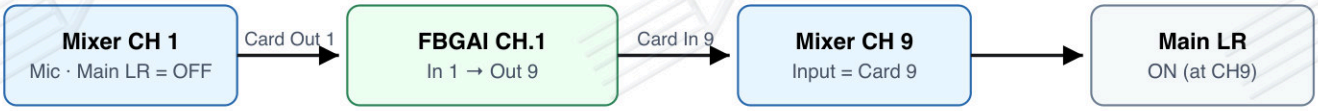
1. Send and return on the same channel (1:1)
2. Send and return on different channels
3. Summing signals into a Bus (when you need many microphones)



Setup 1 — Send and return on the same channel, 1:1



Setup 2 — Send and return on different channels



Setup 3 — Mics summed into a Bus (many mics)

Example diagrams (arrow = signal direction)

In the App

1. **Settings** → set both the Input and Output device to **M32 USB**, and set the **Sample Rate** to match the mixer (48 kHz).

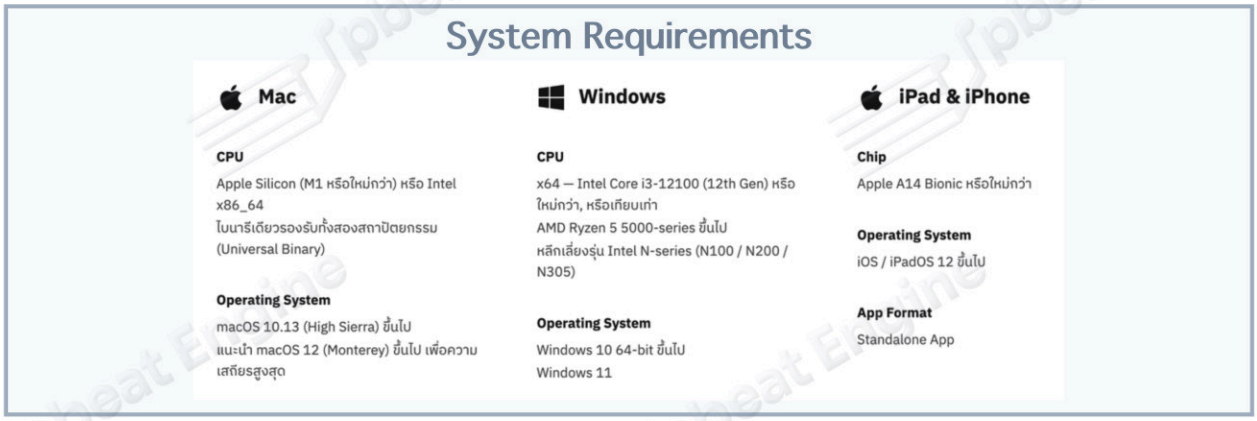
What is Buffer Size and why it matters

> Although Feedback Guardian AI processes with zero latency, in practice the computer system itself adds some delay when passing audio data along, and this cannot be avoided. That makes the Buffer another key variable.

The **Buffer** is the number of audio samples the computer collects into one block before handing it to the program for processing and then sending the result out. The program must finish processing each block **before the next block arrives** — otherwise the audio drops out, crackles or pops.

- **Small buffer** (e.g. 128 samples at 48 kHz ≈ 2.7 ms) — less delay, but less time for the program to process each block, so the CPU has to work fast.
- **Large buffer** (e.g. 256 samples at 48 kHz ≈ 5.3 ms) — more processing time per block and more stable audio, but more delay.

Feedback Guardian AI runs on an **AI** engine, unlike conventional DSP whose calculations are light and fixed, so it needs a reasonably **powerful CPU**. The smaller the buffer, the less time the CPU has per block and the higher the chance of dropouts. When starting out with **1 channel**, we recommend the following starting point for each platform:

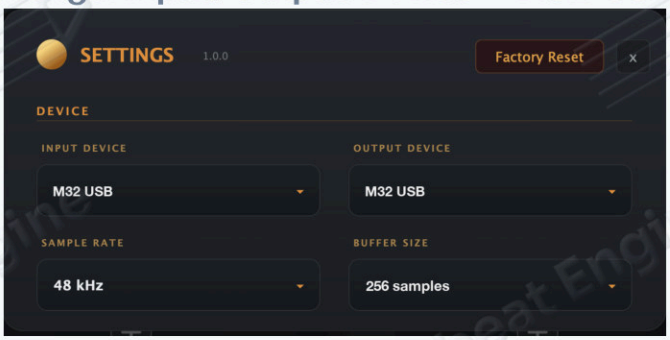


Buffer Size — very important

1. **Start testing at 512 samples**
2. If there are **no dropouts, crackles or pops**, step down to **256 samples**, then to **128 samples**
3. **128 samples** is the developer's recommended value, sufficient for **in-ear monitor** use

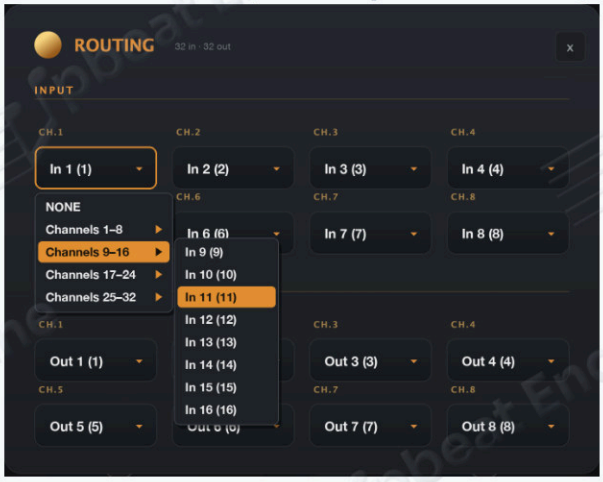
Still getting dropouts or crackles? Buffer Size may not be the only cause. Other computer settings can also cause dropouts or crackles, such as antivirus software, automatic updates and Power / Performance Mode — **especially on a PC**. Tune the computer for running the program as described in the supplied manual.

FBGAI Settings: Input/Output Device = M32 USB, 48 kHz



2. **Routing** → the app lists **every input and output the device has** (M32 USB = 32 in / 32 out). Click any channel and pick the In / Out you want (the menu is grouped in blocks of 8). The default is `In n` → `Out n`.

Routing — click a channel, then pick the In / Out you want from all those the device offers (mockup illustration)



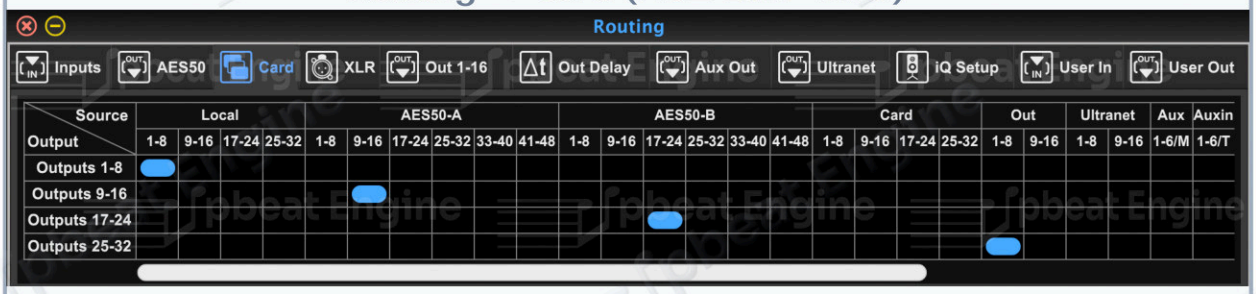
On the Midas M32 Mixer

1. **Routing → Card:** choose the microphone signals to send into the app — look at where each signal comes from, then pick the matching column. By default the mixer makes you choose 8 channels at a time, as shown: (1-8) (9-16) (17-24) (25-32).

   The numbers across the top (Source) show where the mic is actually plugged in, or the Bus that sends the signal to the app. The numbers down the left (Output) correspond to the Inputs in the app. “Make sure the mic signal (Source) you pick lines up with the number on the left (Output).”

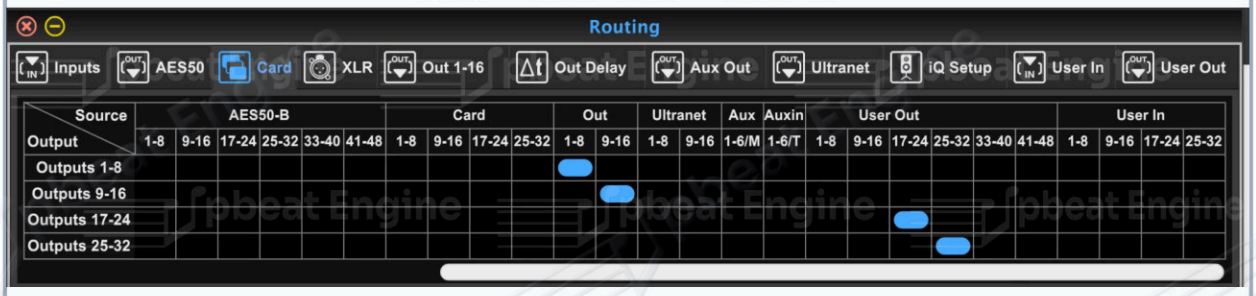
   - **Local** — mic plugged into the mixer itself
   - **AES50-A or B** — mic plugged into a stage box
   - **Out** — signal sent from the mix buses
   - **User Out** — signal sent from User Out

Routing → Card (M32-Edit 4.1.0)



Row	Selected block	Meaning
Outputs 1-8	Local 1-8	Mics plugged into mixer inputs 1-8, sent into the app on **In 1-8**
Outputs 9-16	AES50-A 9-16	Mics plugged into Stagebox A inputs 9-16, sent into the app on **In 9-16**
Outputs 17-24	AES50-B 17-24	Mics plugged into Stagebox B inputs 17-24, sent into the app on **In 17-24**
Outputs 25-32	Out 1-8	Mic signals sent from Bus 1-8, sent into the app on **In 25-32**

Routing → Card (scrolled right) — AES50-B · Card · Out · Ultranet · Aux · User Out · User In

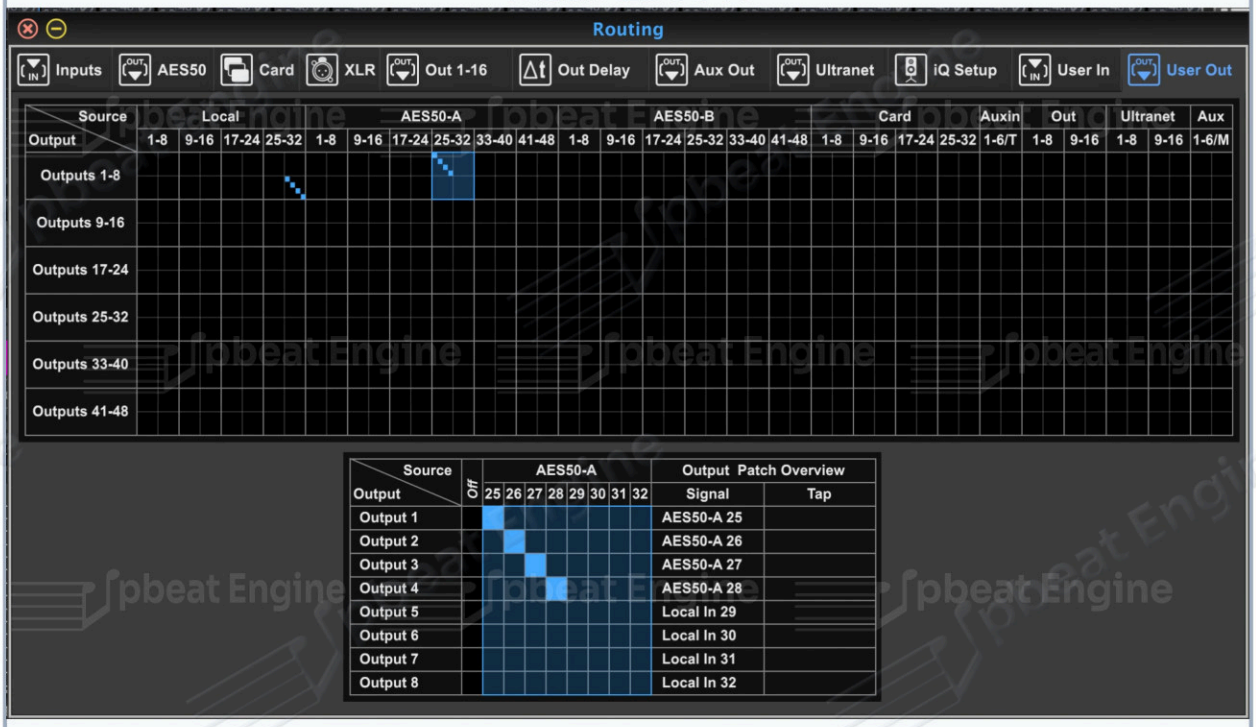


Row	Selected block	Meaning
Outputs 1-8	Out 1-8	Mic signals sent from Bus 1-8, sent into the app on **In 1-8**
Outputs 9-16	Out 9-16	Mic signals sent from Bus 9-16, sent into the app on **In 9-16**
Outputs 17-24	User Out 17-24	Mic signals sent from User Out 17-24, sent into the app on **In 17-24**
Outputs 25-32	User Out 25-32	Mic signals sent from User Out 25-32, sent into the app on **In 25-32**

User Out

If your microphones are not plugged in as exactly 8 consecutive channels within the blocks the Midas M32 defines (1-8, 9-16, 17-24, 25-32) — whether on the back of the mixer or spread across stage boxes — the **"User Out"** function solves this routing problem. Select a **"User Out"** block, choose the signal sources you need, and place them in whatever order you want.

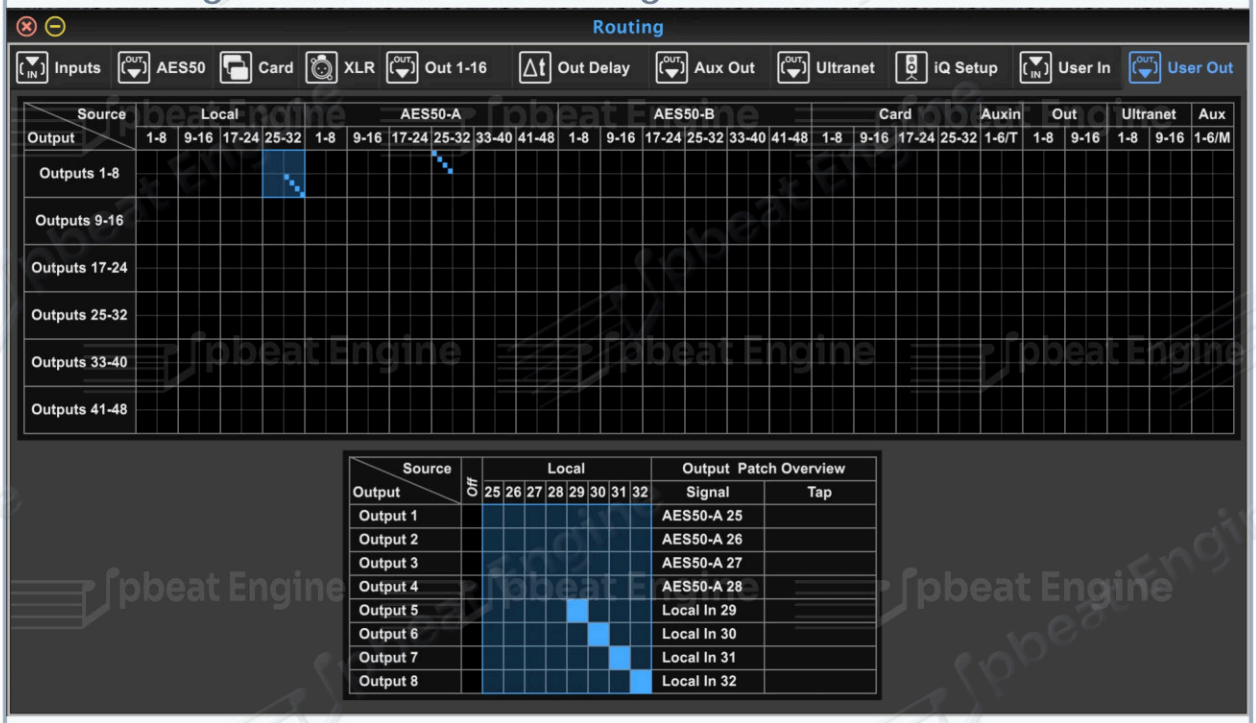
Routing → User Out (M32-Edit 4.1.0) — picking channels one by one from AES50-A



The upper grid shows the User Out blocks (row Outputs 1-8 = User Out 1-8). Click the cell of a signal source (here AES50-A 25-32) and the lower grid opens so you can pick individual channels.

User Out	Signal source
Output 1	AES50-A 25
Output 2	AES50-A 26
Output 3	AES50-A 27
Output 4	AES50-A 28

Routing → User Out — continuing from Local in the same block

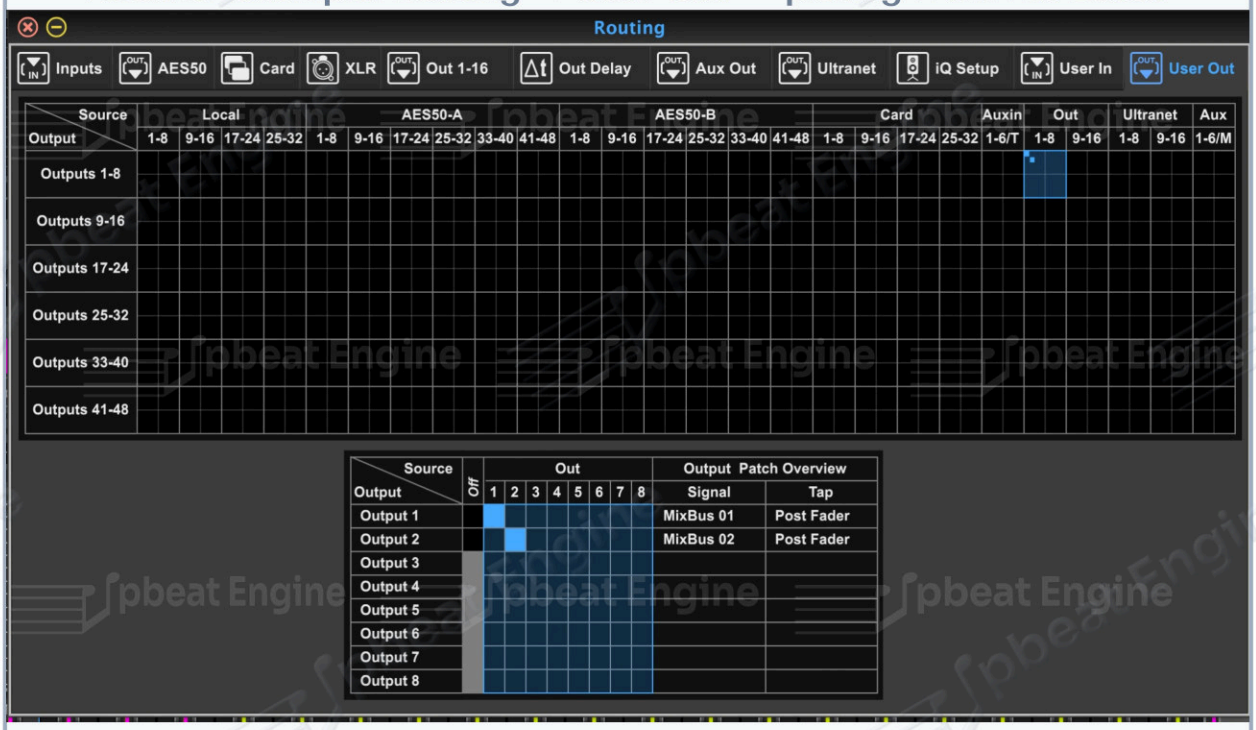


Click the Local 25-32 cell in the same Outputs 1-8 row, then assign Output 5-8. The Output Patch Overview on the right shows the result for all 8 channels.

User Out	Signal source
Output 1-4	AES50-A 25-28 (from the previous step)
Output 5	Local In 29
Output 6	Local In 30
Output 7	Local In 31
Output 8	Local In 32

Result: User Out 1-8 combines mics from Stagebox A (AES50-A 25-28) and mics plugged into the back of the mixer (Local 29-32) in a single block. You can then select User Out 1-8 as a source on the Routing → Card page.

Another example: Routing → User Out — picking from Mix Buses



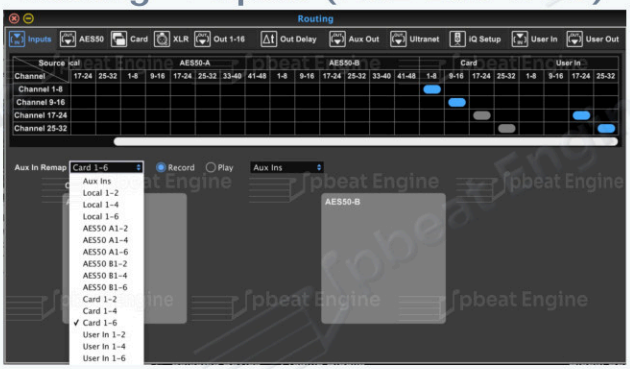
Click the Out 1-8 cell in the Outputs 1-8 row, then pick channels one by one. The signal comes from the Mix Bus at the tap point shown in the Tap column.

User Out	Signal source	Tap
Output 1	MixBus 01	Post Fader
Output 2	MixBus 02	Post Fader
Output 3-8	Not assigned (Off)	—

2. **Routing → Inputs:** choose the channels that receive the signal coming back from the app.

   The numbers across the top are the Output channels sent from the app; the numbers on the left are the mixer channel strips that will use the app's signal.
   You can choose freely from 1-32, but in the normal routing the mixer forces blocks of 8 consecutive channels. Free per-channel selection is possible with User In and with AUX IN (choose Card 1-2, 1-4 or 1-6).

Routing → Inputs (M32-Edit 4.1.0)



The Routing → Inputs page selects which source each mixer channel receives. In this picture the channels receive the processed audio coming back from the app via Card and User In.

Mixer channels	Selected block (blue)	Meaning
Channel 1-8	Card 1-8	Receive the signal the app returns on **Out 1-8**
Channel 9-16	Card 9-16	Receive the signal the app returns on **Out 9-16**
Channel 17-24	User In 17-24	Receive from the **User In 17-24** block
Channel 25-32	User In 25-32	Receive from the **User In 25-32** block (see User In below)

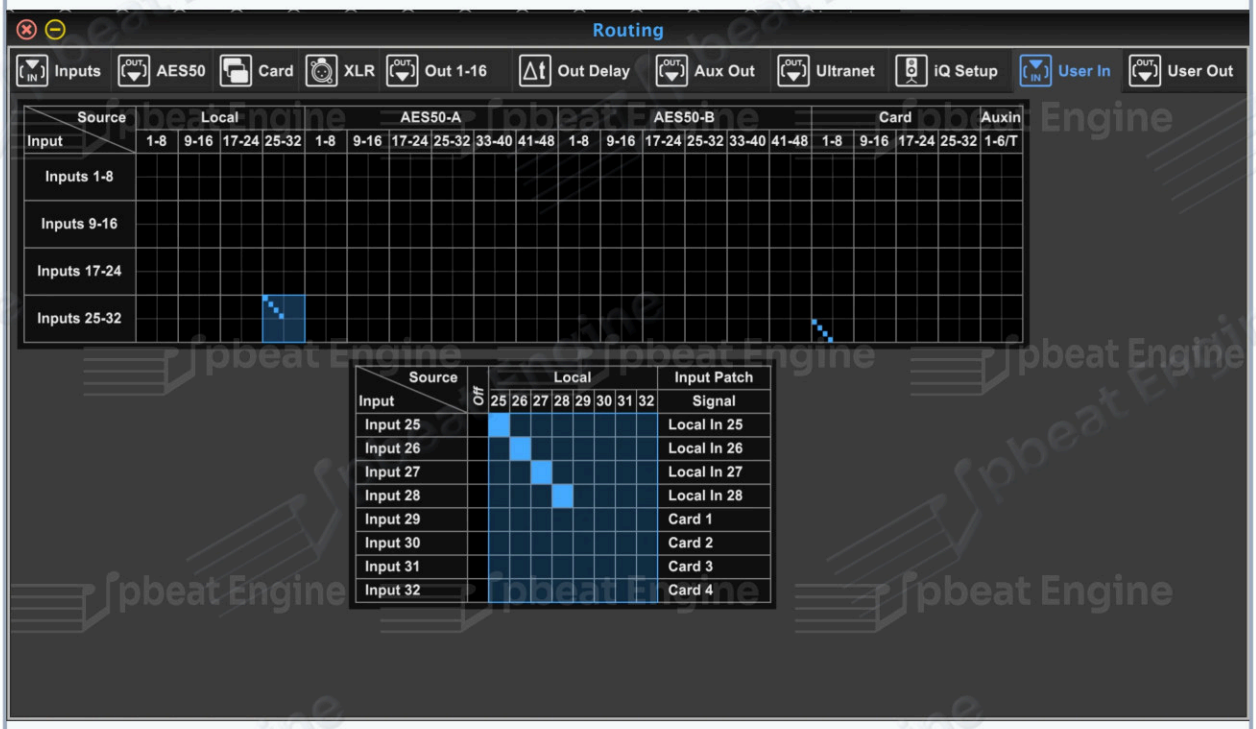
Aux In Remap is another way to receive the signal back from the app — especially when you send a summed Bus to the app and want return channels that are simply left open with no further adjustment. In this menu you choose where the Aux Ins receive from, e.g. Local, AES50 A/B, Card or User In (**Card 1-6** is selected in the picture).

User In

When mixer channels need to receive from a mix of sources rather than one source filling exactly 8 channels within the blocks the Midas M32 defines (1-8, 9-16, 17-24, 25-32) — for example, some channels take mics plugged into the back of the mixer while others take audio the app returns via Card — the **"User In"** function solves this routing problem. Select a **"User In"** block, choose the signal sources you need, place them

in the order you want, then select that User In block on the Routing → Inputs page.

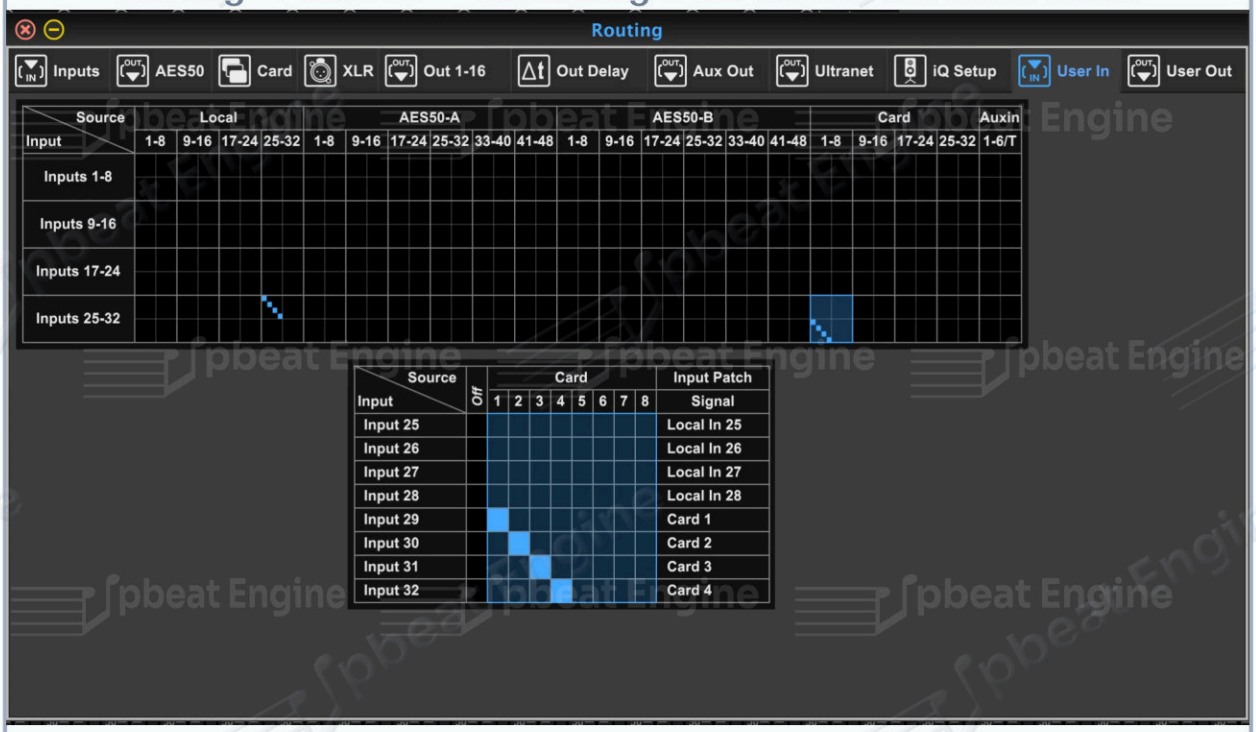
Routing → User In (M32-Edit 4.1.0) — picking channels one by one from Local



The upper grid shows the User In blocks (row Inputs 25-32 = User In 25-32). Click the cell of a signal source (here Local 25-32) and the lower grid opens so you can pick individual channels.

User In	Signal source
Input 25	Local In 25
Input 26	Local In 26
Input 27	Local In 27
Input 28	Local In 28

Routing → User In — continuing from Card in the same block



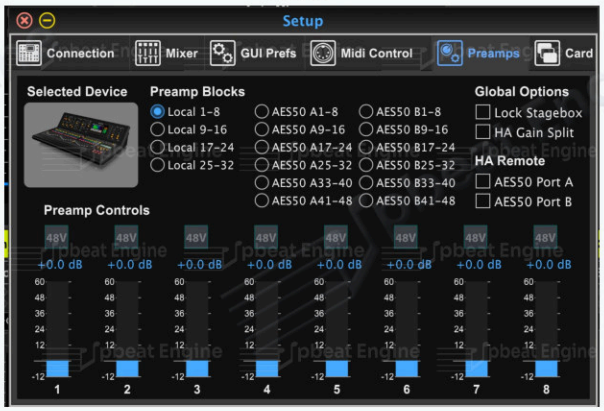
Click the Card 1-8 cell in the same Inputs 25-32 row, then assign Input 29-32. The Input Patch on the right shows the result for all 8 channels.

User In	Signal source
Input 25-28	Local In 25-28 (from the previous step)
Input 29	Card 1
Input 30	Card 2
Input 31	Card 3
Input 32	Card 4

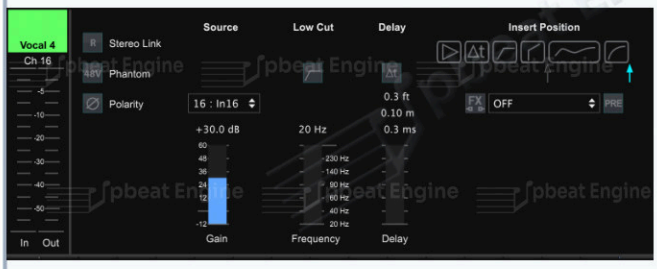
Result: User In 25-32 combines mics plugged into the back of the mixer (Local 25-28) and audio the app returns via Card 1-4 in a single block. Then, on the Routing → Inputs page, set Channel 25-32 to receive from User In 25-32.

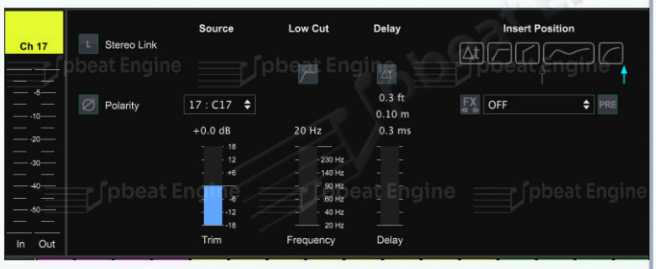
3. **Set mic gain in Setup** → **Preamps** (not on the channel strip): with a 1:1 connection, the mixer channel strip now carries the signal returning from the app, so the strip's GAIN knob becomes a Trim — raising the level there raises the audio after the app's processing. If you really need more gain on the actual microphone input, go to Setup → Preamps and select the inputs the mics are plugged into, e.g. Preamp Blocks **Local 1-8** (or **AES50 A1-8** if you use a stage box), then set 48V and gain (–12 to +60 dB) for each of mics 1–8.

Setup → Preamps: select the Local 1-8 block, then set 48V and gain for each mic



Example: Gain (normal mic signal) vs. Trim (signal returning from the app)





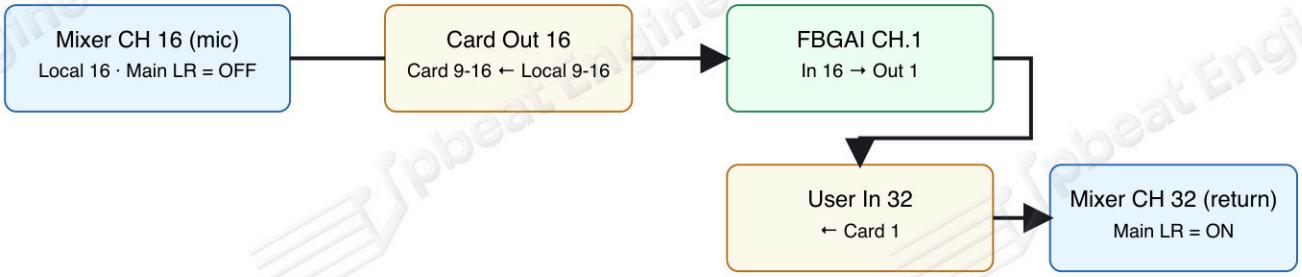
Ch 16 (Vocal 4) takes Source **16 : In16**, the input the mic is actually plugged into, so the knob shows **Gain** (+30.0 dB here, range −12 to +60 dB) and there is a **48V Phantom** button.

Ch 17 takes Source **17 : C17**, i.e. Card 17 returned by the app, so the knob shows **Trim** (+0.0 dB here, range −18 to +18 dB) and there is no 48V Phantom button. Adjusting this knob raises or lowers the audio after the app's processing — it is not the microphone gain.

Caution: once a channel receives from Card, it goes silent if the app stops or the USB device disconnects. Test in advance, and be ready to switch Inputs back to Local.

Send and Return on Different Channels

Example scenario: the microphone is plugged into **Local 16** (input 16 on the back of the mixer). The send goes to the app via Card Out as usual, but the processed audio needs to come back on channel **32**, while block 25-32 is still receiving mics from Local 25-31. So **User In** is used to change only channel 32 to receive from Card 1, while channels 25-31 stay on Local as before.

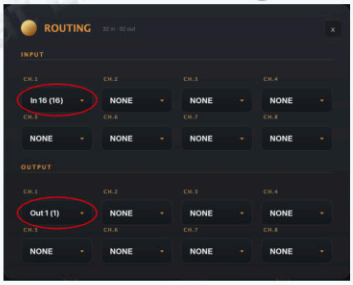


In the App

1. **Routing:** on row CH.1, set Input = **In 16** and Output = **Out 1**

   The app receives the mic from In 16 (matching Card Out 16) and sends the processed audio out on Out 1, which enters the mixer as Card 1. Each row's Input and Output can be chosen independently — they do not have to be the same number.

Feedback Guardian AI → Routing: CH.1 In 16 → Out 1

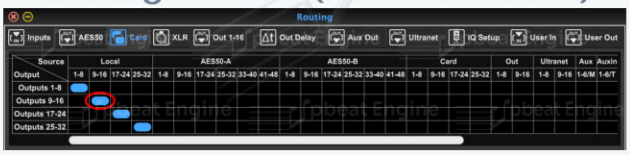


The app's Routing window (32 in · 32 out with the M32 USB device selected): INPUT CH.1 = **In 16 (16)** and OUTPUT CH.1 = **Out 1 (1)**.

On the Midas M32 Mixer

1. **Routing → Card:** Outputs 9-16 ← Local 9-16 (normal send: the mic on Local 16 goes out on Card Out 16 into the app at In 16)

Routing → Card (M32-Edit 4.1.0)

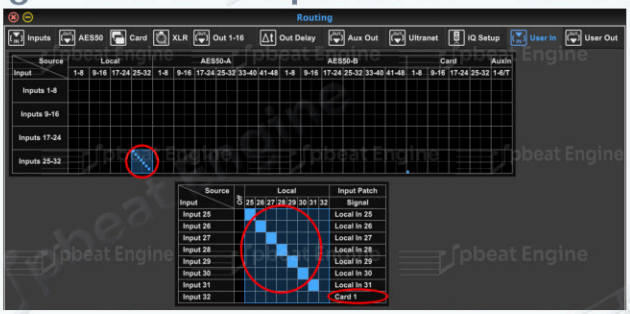


Every block sends from Local as usual. The row **Outputs 9-16 ← Local 9-16** sends the mic on Local 16 out on Card Out 16 and into the app at **In 16.**

2. **Routing → User In:** in row Inputs 25-32, set Input 25-31 ← Local In 25-31 and Input 32 ← Card 1

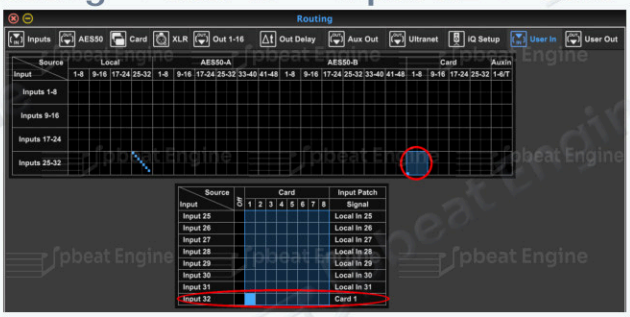
User In	Signal source	Meaning
Input 25-31	Local In 25-31	Mics on mixer inputs 25-31 still feed the same channels
Input 32	Card 1	The Local 16 mic after processing by the app (Out 1)

Routing → User In — Input 25-31 ← Local 25-31



Click the Local 25-32 cell in row Inputs 25-32, then set Input 25-31 ← Local In 25-31. The Input Patch on the right shows Input 32 = Card 1.

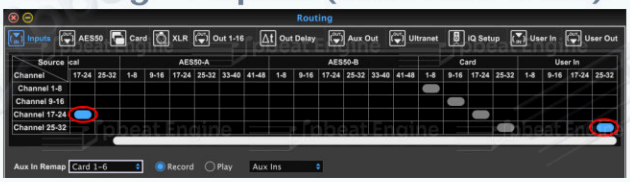
Routing → User In — Input 32 ← Card 1



Click the Card 1-8 cell in the same row, then set **Input 32 ← Card 1** (the audio the app returns on Out 1).

3. **Routing → Inputs:** Channel 25-32 ← User In 25-32

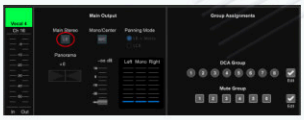
Routing → Inputs (M32-Edit 4.1.0)



Row **Channel 25-32 ← User In 25-32** (blue dot), while Channel 17-24 ← Local 17-24 receives mics as usual.

4. CH 16 (source mic): **Main LR off** · CH 32 (return): **Main LR on**

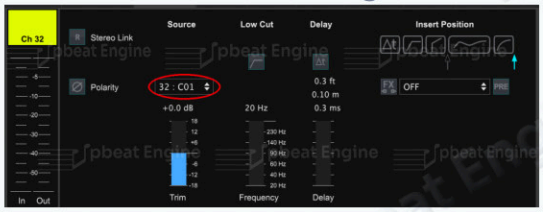
Main → Main Stereo LR



Ch 16 (Vocal 4) LR button off — the raw mic is not sent to Main

Ch 32 LR button on (orange) — the processed audio is sent to Main

Ch 32 Config



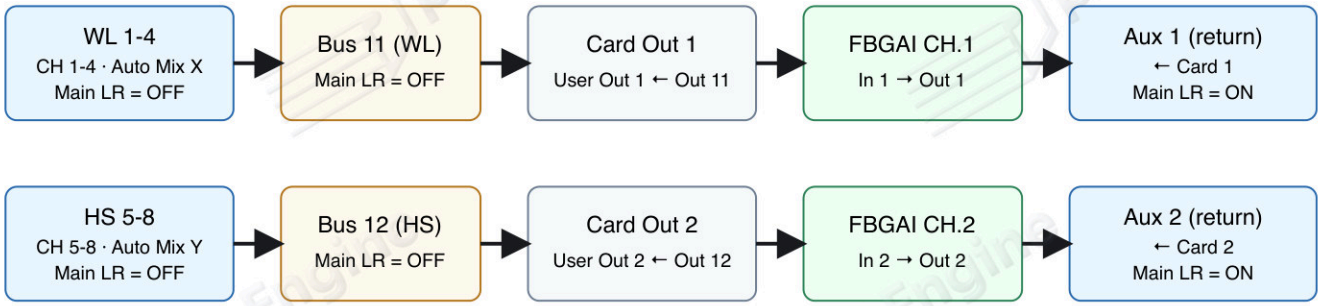
Ch 32's Source shows **32 : C01**, meaning it receives Card 1 via User In, and the knob shows **Trim** because this is the signal returning from the app.

> **Main pitfall:** if you forget to switch Main LR off on CH 16, the raw mic goes to the PA alongside the processed audio on CH 32.

Summing Multiple Mics into a Bus

Use this when you have more than 8 mics (the app's channel limit) or the CPU is not powerful enough for many channels: sum the mics into Mix Buses on the mixer and send the buses to the app.

Example scenario: 8 microphones — **4 wireless** (WL 1-4 on channels 1-4) and **4 headsets** (HS 5-8 on channels 5-8) — are summed into 2 buses: all wireless mics into **Bus 11** and all headsets into **Bus 12.** Bus 11 and 12 are sent to the app, and the processed audio returns to the mixer on **Aux 1** and **Aux 2.** The app therefore uses only 2 channels for all 8 mics.



In the App

1. **Routing:** row CH.1: Input = **In 1**, Output = **Out 1** (Bus 11 Wireless) · row CH.2: Input = **In 2**, Output = **Out 2** (Bus 12 Headset)

   Set the unused channels CH.3–8 to Input/Output NONE and press Mute on the app's main screen (a muted channel skips the whole processing chain and uses no CPU).

Feedback Guardian AI → Routing: CH.1 In 1 → Out 1 · CH.2 In 2 → Out 2 (CH.3–8 NONE)

On the Midas M32 Mixer

1. **Mixer:** organise the mics into 2 groups — WL 1-4 (CH 1-4) and HS 5-8 (CH 5-8)

Channels WL 1-4 in Auto Mix group X · HS 5-8 in Auto Mix group Y

2. **Sends:** CH 1-4 (WL) send to **Bus 11** · CH 5-8 (HS) send to **Bus 12, Post Fader**

Sends on WL 1 (Ch 01) — Bus 11 WL = 0.0 dB · Post Fader

Bus pair 11-12 uses the **Post Fader** tap point, so each mic's fader still controls the level sent to the bus. Do the same for WL 2-4.

Sends on HS 5 (Ch 05) — Bus 12 HS = 0.0 dB · Post Fader

Do the same for HS 6-8.

3. **Channel → Main Out:** **switch the LR assign off (bypass LR)** on every mic channel CH 1-8 · WL in Auto Mix **X** · HS in Auto Mix **Y**

WL 1 channel — Main Stereo LR off · Auto Mix X · Bus Sends 11

HS 5 channel — Main Stereo LR off · Auto Mix Y · Bus Sends 12

4. **Bus 11 / Bus 12 → Main Out:** **switch the LR assign off (bypass LR)** on the buses as well

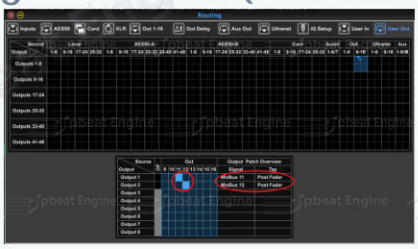
The audio summed in the buses has not yet been through the app. If LR is on at the bus, the raw audio goes to Main on top of the audio returning on the Aux channels.

Bus 11 WL — Main Stereo LR off

Bus 12 HS — Main Stereo LR off

5. **Routing → User Out:** Output 1 ← **Out 11** · Output 2 ← **Out 12**

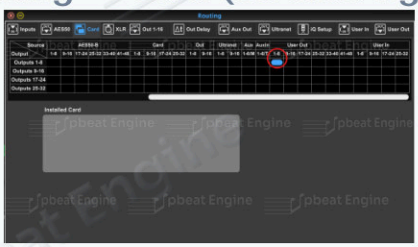
Routing → User Out (M32-Edit 4.1.0)



Click the Out 9-16 cell in row Outputs 1-8, then set Output 1 ← Out 11 and Output 2 ← Out 12. The Output Patch Overview shows **MixBus 11 · Post Fader** and **MixBus 12 · Post Fader**.

6. **Routing → Card:** Outputs 1-8 ← **User Out 1-8**

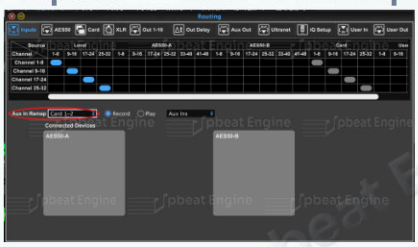
Routing → Card (scrolled right)



Row **Outputs 1-8** ← **User Out 1-8** makes Card Out 1 = Bus 11, entering the app at **In 1**, and Card Out 2 = Bus 12, entering the app at **In 2**.

7. **Routing → Inputs:** Aux In Remap = **Card 1-2**

Routing → Inputs — Aux In Remap: Card 1-2



Aux 1 receives Card 1 (Bus 11 audio returned by the app on Out 1) and Aux 2 receives Card 2 (Bus 12 audio returned on Out 2).

Aux 1 / Aux 2 Config

Aux 1 (Group 1) Source = **Aux 1: C01**, i.e. receives Card 1

Aux 2 (Group 2) Source = **Aux 2: C02**, i.e. receives Card 2

8. **Aux 1 / Aux 2 → Main Out:** **switch Main LR on** — this is the only point where all 8 mics reach Main

Aux 1 (Group 1) — Main Stereo LR on (orange)

Aux 2 (Group 2) — Main Stereo LR on (orange)

Use the Aux 1 and Aux 2 faders to control the overall level of the Wireless group and the Headset group.

Auto Mix recommended: check whether your mixer has an **Auto Mix** function. If it does and the event is speech, we recommend turning it on — it helps a lot, because it reduces unnecessary signal from mics that are not being spoken into before it reaches the app. In this example the M32 puts WL 1-4 in group X and HS 5-8 in group Y.

Never send anything other than speech into the app. The buses sent to the app must contain speech mics only — never send music, file playback, instruments or FX into these buses.

Consequences

Issue	Detail
Auto Mix in the app	Each app channel sees the summed signal of a whole bus, so it cannot share gain between the mics within one group — use the mixer's Auto Mix instead.
Feedback suppression	The engine works on the summed signal of each bus, not per mic.
Number of buses	One bus per app channel, up to 8 buses. Group by mic type or zone (this example uses 2 buses = CH.1–2).
CPU	Scales with the number of open channels.

Summary · Don't Forget

1. **Switch the LR assign off (bypass LR) on every mic channel and every Bus sent to the app** — switch LR on only for the channels that receive the audio back from the app (Aux 1 and Aux 2 in the example). If you forget, the raw audio goes to the PA on top of the processed audio.
2. **Check whether your mixer has Auto Mix** — for speech events, we recommend using it to reduce unnecessary signal going into the app.
3. **Never send anything other than speech into the app.**

Comparison

	Setup 1	Setup 2	Setup 3
Engine channels used	1 per mic	1 per mic	1 per bus
In the app	1:1 (default)	In n → Out m	1:1 on the channels used
On the mixer	Inputs ← Card + Card Out ← Local/AES50-A	Card Out + Input patch + Main LR off	Bus + User Out + Card Out + Aux In Remap + LR off
Auto Mix between mics	Available	Available	Use the mixer's Auto Mix
More than 8 mics	No	No	Yes (multiple buses)