MIDI Assistant: A Musician's Guide

What Is MIDI Assistant?

MIDI Assistant is your backstage helper for Apple MainStage. It sits between your controllers (like Lemur on iPad or a Launch Control XL) and MainStage, adding a layer of musical intelligence on top of your existing concerts.[1]

- 🎹 Complex MIDI automation from a single button or pad
- ⏱️ Tempo-locked transitions and parameter moves
- 🔀 Flexible routing between multiple controllers and MainStage
- 📱 Deep integration with Lemur and other MIDI/OSC surfaces[1]

Today, the "brain" of MIDI Assistant already runs your shows; the dedicated UI editor will simply give you a friendlier way to see and tweak what's already possible under the hood.[1]

Real-World Use Cases

1. One-Button Scene Changes

Problem: Changing from verse to chorus takes too many moves—patch changes, faders, timing luck.[1]

With MIDI Assistant, one button on your iPad can trigger a "Chorus" scene that:

- Sends the right program change to MainStage
- Fades strings in automatically
- Crossfades pads or synth layers
- Lines everything up on the next downbeat[1]

You think musically ("go to Chorus"), not technically ("send PC 12, move fader 7, change patch bank…").

2. Tempo-Synced Effects

Problem: You want a filter sweep or volume fade that is always exactly 2 bars, no matter the tempo.[1]

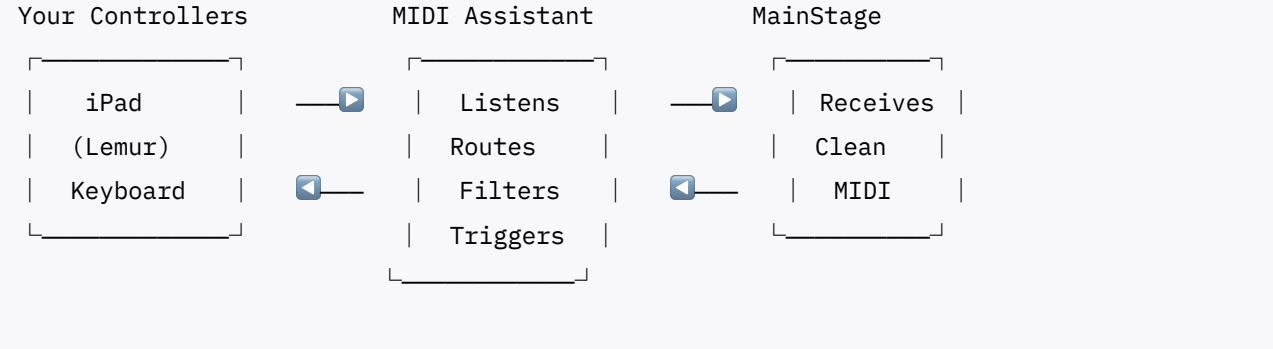
A **parameter ramp** event lets you say: “Take this control from here to there over N bars,” and MIDI Assistant calculates the exact timing based on your live tempo. That keeps transitions musical even if the band pushes or pulls the click.[1]

3. Controller Naming That Makes Sense

Problem: MainStage labels devices as “Network Session 1” or “Launch Control XL,” and your routing list gets confusing.[1]

MIDI Assistant creates friendly virtual ports like “Lemur Main” or “Pads & Knobs,” then routes your physical controllers through them. MainStage sees the names you actually care about.[1]

How It Works (Musician Level)



1. You play or tap a control on your surface.
2. MIDI Assistant decides what musical action that should trigger (scene change, ramp, route change).
3. It sends clean, well-timed MIDI into MainStage.
4. MainStage responds exactly as you designed.[1]

The upcoming UI editor will show this flow visually and let you adjust it without touching config files, but the live behavior stays the same.[1]

Key Concepts for Musicians

🎵 Patches & Sections

Think of:

- **Patch** = a song in your set
- **Section** = Intro, Verse, Chorus, Bridge, etc. inside that song[1]

Each section can carry its own MIDI actions:

- Program changes to swap sounds
- Control changes for faders, filters, or FX
- Multi-step automations that unfold over time[1]

From your point of view: “Tap Verse 2,” “Tap Bridge,” and the sound rig follows you.

🎛️ Presets

Presets are reusable effect or instrument settings. Instead of recreating the same reverb or delay across multiple songs, you define it once and call it from any patch:[1]

- Favorite reverb spaces
- Standard delay chains
- Special FX scenes you want across multiple songs[1]

When the UI arrives, you’ll browse and save these visually; today, they’re already active in the engine.

⏰ Quantized Triggers

Next Measure mode keeps you safe timing-wise:

1. Hit the button anytime in the bar.
2. MIDI Assistant waits for beat 1 of the next measure.
3. The change lands exactly on the downbeat.[1]

This is ideal for big transitions where missing the 1 would be obvious.

Routing Profiles for Different Gigs

Different shows, different rigs—same brain.

Create **routing profiles** like:

- “Club Gig” – iPad only
- “Full Band” – iPad + Launch Control XL + external keyboard
- “Recording Session” – everything routed into your DAW via IAC
- “Spontaneous Worship / Free Flow” – layered orchestration and intelligent note routing[1]

Switching profiles is instant; MainStage doesn’t have to be rewired.

Spontaneous Worship / Free-Flow Profile (What You Experience)

This profile is designed for rich, evolving textures without you thinking about splits or layers on every song.[1]

As the player:

- Play normally across the keyboard.
- Low notes naturally drive bass patches.
- Midrange fills pads and textures.
- High notes pull out lead voices and sparkle.[1]

You focus on worship flow and expression while MIDI Assistant and MainStage Scripter sort out where each note should go.

Under the Hood (For the Curious)

Behind the scenes:

- **Bass channel strips** receive only the lowest notes for foundation.
- **Lead channel strips** receive only the top notes for lines and melody.
- **Pad/texture strips** receive the middle for harmonic support.[1]

Breakpoint transposition keeps instruments in their sweet spots:

- If strings would sound harsh too high, notes above a threshold are automatically transposed down so the timbre stays warm.
- If a bass patch would get muddy too low, the part is bumped up an octave when needed.[1]

When you change patches or sections, MIDI Assistant updates these breakpoints so your palette can evolve through the service without manual reprogramming.[1]

Getting Ready for Your First Gig

What You Need

1. A Mac running MainStage
2. MIDI Assistant running in the background
3. Your controllers (Lemur, Launch Control XL, keys, etc.)
4. A short one-time setup session with someone comfortable with the current configuration tooling[1]

Once your show file and routing are set, your day-to-day experience is just opening the concert and using your controller layout.

Quick Start (Today's Workflow)

1. **Launch MIDI Assistant** (via its current launcher/command).
2. **Confirm ports**: verify that your controllers and virtual ports are visible.
3. **Load your routing profile** for this gig.
4. **Open MainStage** and select your concert.
5. **Test with MIDISnoop** or a similar monitor to confirm messages are flowing correctly.[1]

The future UI will collapse steps 2–3 into a small "Session Setup" panel.

Typical Show Flow

Before the Gig

1. Load the concert that contains your songs and sections.
2. Verify events for each section transition (verse → chorus, chorus → bridge).
3. Choose the routing profile that matches the venue/setup.[1]

During the Gig

1. Start MIDI Assistant and MainStage.

2. Use your iPad or other controller as the main surface.
3. Tap your section buttons (Intro, Verse, Chorus…) and let MIDI Assistant handle program changes, fades, and tempo-locked moves.[1]

After the Gig

1. Note any tweaks you want for next time (e.g., “strings too bright in bridge”).
2. Update mappings or presets during rehearsal time.
3. Keep your configuration under version control or backed up.[1]

Lemur Integration

MIDI Assistant is built to work tightly with **Lemur** on iPad:

- OSC messages trigger patches and sections.
- Bidirectional feedback keeps labels, LEDs, and states updated.
- Array messages let you fire multiple actions efficiently.[1]

Example OSC message:

```
/triggerSection patch_A01 2
```

Meaning: “In patch A01, trigger section 2.”[1]

The long-term vision is a dedicated Lemur (or other tablet) template that matches your songs and sections automatically; the protocol that enables that is already in place.

What Lives in Configuration (For Power Users)

Underneath the future UI, your show is defined by a small set of config files:

- `config.json` – general settings (OSC port, default MIDI ports, master clock source).
- `midi_routing.json` – which controllers are connected, virtual port names, and routing profiles.
- `patches.json` – songs, sections, tempos, and the MIDI events tied to each section.[1]

Tech-minded users can edit these directly or keep them in Git; the planned graphical editor will simply give a friendlier face to the same structure.

Tips from the Stage

1. **Always test before the gig**: run a quick pass through your set, watching a MIDI monitor while you tap section buttons.[1]
2. **Use clear names**: "Intro," "Verse 1," "Chorus Big" is easier to read on a dark stage than "Section1," "Section2."[1]
3. **Start simple**: begin with a few key transitions working reliably, then layer on advanced automation once the basics are rock solid.[1]
4. **Keep backups**: your config files are your show; store them in a repo or backup folder so you can always roll back.[1]
5. **Quantize for safety**: if timing is critical, use next-measure quantization so big changes always land on 1.[1]

Troubleshooting (Musician-Level)

- **Controller not showing up**: confirm the device is connected, the IAC Driver or Network Session is enabled, and restart MIDI Assistant after plugging things in.[1]
- **No sound changes in MainStage**: check that the virtual MIDI ports exist, and that your concert is listening to those ports.[1]
- **Timing feels off**: verify tempo and sync settings (especially if you play with tracks or a drummer) and ensure the master clock is set correctly.[1]

Need More Detail?

- The **Technical Overview** goes deeper into the engine, scripting, and configuration structure.
- The **Command Reference** lists all tools and options available to power users.
- Logs in `/logs/` can help diagnose anything weird that happens on stage.[1]

For everyday playing, you do not need to understand the internal commands—the important part is that your buttons, pedals, and keys do the right musical thing at the right time.

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1. MIDI_ASSISTANT_MUSICIANS_GUIDE.md