Pieplate Quick Start Guide

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Pieplate is a voice routing engine for Max for Live. It takes MIDI notes from a single input and distributes them across multiple satellite synthesizer voices. Think of it as a smart switchboard that decides which synth voice plays which note.

This guide will get you playing in under five minutes.

How It Works (30-Second Version)

1. You play MIDI notes into Pieplate.
2. Pieplate decides which satellite voice (1 through 16) receives each note.
3. Each satellite is an independent synth voice that responds to its assigned notes.

The **routing mode** controls the logic Pieplate uses to make that decision. Different modes suit different musical situations.

Modes at a Glance

Mode	Best For	Voices	Behavior
Simple Poly	General playing	1-16	First free voice wins; steals oldest if full
Poly Shape	Chords with stable voicing	1-16	Lowest note always on voice 1, next on voice 2, etc.
Stack All	Unison / mono-synth leads	1-16	Every voice plays the same note
Chord Position	Positional chord voicing	1-16	Like Poly Shape, but supports play-order sorting
Round Robin (Fwd/PingPong/Rev)	Cycling through voices	1-16	Each new note goes to the next voice in sequence
Key/Velocity Zones	Timbral splits	1-16	Voice chosen by pitch + velocity range
Random (Pure/NoRepeat/LowBias/HighBias)	Textural variation	1-16	Voice chosen randomly with optional weighting

Mode	Best For	Voices	Behavior
Chord Memory	One-finger chords	1-16	Capture a chord shape, then trigger it from any root
Minimal Movement	Smooth voice-leading	1-16	Keeps voices stable; minimizes pitch jumps between chords
Legato Duophonic	Bass + lead lines	2-16	Voice 1 = lowest held note, Voice 2 = highest

Which Mode Should I Pick?

Follow this decision tree to find your starting point:

```
Do you want every voice to play the same note?
 |
 +-- YES --> Stack All
 |
 NO
 |
 Do you want to capture a chord and replay it with one key?
 |
 +-- YES --> Chord Memory
 |
 NO
 |
 Do you need exactly two voices (bass line + melody)?
 |
 +-- YES --> Legato Duophonic
 |
 NO
 |
 Do you want voice selection based on pitch range or dynamics?
 |
 +-- YES --> Key/Velocity Zones
 |
 NO
 |
 Do you want stable, predictable chord voicing?
 |
 +-- YES --> How important is smooth voice-leading?
 |           |
 |           +-- Very important --> Minimal Movement
 |           +-- Just keep it sorted --> Poly Shape
 |
 NO
 |
 Do you want voices to cycle or randomize?
 |
 +-- YES --> Round Robin or Random variants
 |
 NO
```

```
|
Start with Simple Poly (the default).
```

Use Case 1: Polyphonic Chord Playing (Poly Shape)

This is the go-to mode for playing chords where you want each voice to have a consistent role. The lowest note always drives voice 1, the second-lowest drives voice 2, and so on.

Setup:

1. Set **Routing Mode** to **Poly Shape**.
2. Set **Max Voices** to the number of chord tones you typically play (3 or 4 is a good start).
3. Leave **Settle Window** at 0 ms for now.

Play:

- Play a three-note chord (e.g., C-E-G). Voice 1 gets C, voice 2 gets E, voice 3 gets G.
- Add a note below (e.g., hold the chord and press A2). The voicing re-sorts: A2 moves to voice 1, C moves to voice 2, and so on.
- Release notes in any order. The remaining held notes stay on the correct voices without re-triggering.

Tip: If you hear brief voice shuffling when pressing chords quickly, try setting the **Settle Window** to 5-10 ms (see the Settle Window section below).

Use Case 2: Unison / Mono-Synth Lead (Stack All + Legato)

Stack All sends the same note to every satellite voice at once. Combined with legato retrigger, it behaves like a classic mono-synth note stack with last-note priority.

Setup:

1. Set **Routing Mode** to **Stack All**.
2. Set **Max Voices** to however many unison layers you want (e.g., 4 for a thick unison).
3. Turn **Legato Retrigger** ON.

Play:

- Press and hold C3. All 4 voices play C3.
- While holding C3, press E3. All 4 voices switch to E3 (last-note priority).
- Release E3 while still holding C3. All voices return to C3.
- Release C3. All voices go silent.

Without Legato Retrigger: Each new note-on fires all voices independently. There is no note stack; releasing a note does not restore the previous one.

Use Case 3: Chord Memory (One-Finger Chords)

Chord Memory lets you capture a chord shape once, then play that shape from any root note with a single key.

Setup:

1. Set **Routing Mode** to **Chord Memory**.
2. Set **Max Voices** to at least the number of notes in your chord template.

Capture a chord:

1. Turn on **Chord Capture**.
2. Play the chord you want to use as a template (e.g., C-E-G for a major triad). The lowest note becomes the root; the intervals are stored.
3. Turn off **Chord Capture**.

Play:

- Press any single key (e.g., D3). Pieplate expands it into D-F#-A (the captured major triad shape transposed to D).
- Press another key while holding the first. A second chord sounds on the available voices.

With Legato Retrigger ON: Only one chord sounds at a time (last-note priority). Releasing the current root restores the previous held root's chord.

To clear the template: Send a **Chord Clear** message. This also releases any currently sounding chord memory notes.

The Settle Window

When you press multiple keys to form a chord, those key-presses arrive one at a time, typically a few milliseconds apart. In stable voicing modes (Poly Shape, Chord Position, Minimal Movement, Legato Duophonic, Chord Memory), this can cause brief voice reshuffling as each note arrives.

The **Settle Window** (0-50 ms) tells Pieplate to wait briefly and collect all the notes before finalizing the voice assignment.

When to use it:

- You hear brief "blips" or voice swaps when pressing chords quickly.
- You want cleaner chord transitions.
- A value of 5-10 ms usually solves jitter without adding noticeable latency.

Settle Style:

- **Soft:** Notes play immediately with a provisional voicing, then settle into the final layout after the window. Feels responsive but may cause a brief voice shuffle.
- **Hard:** Notes are held back until the window closes, then the full chord plays at once. Perfectly clean but adds a small amount of latency.

When to leave it at 0: Single-note lines, arpeggiated parts, or any situation where you want zero latency.

Key Parameters Reference

Parameter	Range	What It Does
Max Voices	1-16	Number of satellite voices available for routing
Legato Retrigger	On/Off	Enables note-stack behavior (last-note priority) in Stack All, Chord Memory, Legato Duo, and Simple Poly (2-voice bass/lead)
Settle Window	0-50 ms	Batching window for stable voicing modes (0 = disabled)
Settle Style	Soft/Hard	Soft = play then re-voice; Hard = wait then play

Parameter	Range	What It Does
Chord Order	Pitch/Play Order	Sorts chord notes by pitch (low to high) or by the order you pressed them (Chord Position mode)
Chord Overflow	Wrap/Clamp/Lowest-N/Highest-N/Keep-Edges	What happens when you play more notes than you have voices
Voice Reassign	Dynamic/On-Note-On/Locked	Controls when notes can move between voices during revoicing
Stable Retrigger Policy	None/On-Restrike/On-Velocity-Change	Whether same-pitch restrikes cause a re-attack in stable modes

Troubleshooting

Notes are stuck / hanging: Send a **Panic** message. This sends all-notes-off to every satellite and resets all internal state.

Chord Memory plays nothing: Make sure you have captured a template (Chord Capture on, play chord, Chord Capture off). If the template was cleared, capture again.

Voices shuffle when forming chords: Increase the Settle Window to 5-15 ms and try Soft style first. Switch to Hard if you need perfectly clean transitions and can tolerate a few ms of latency.

Legato does not restore previous notes: Confirm that Legato Retrigger is turned ON. Without it, note-stack behavior is disabled.