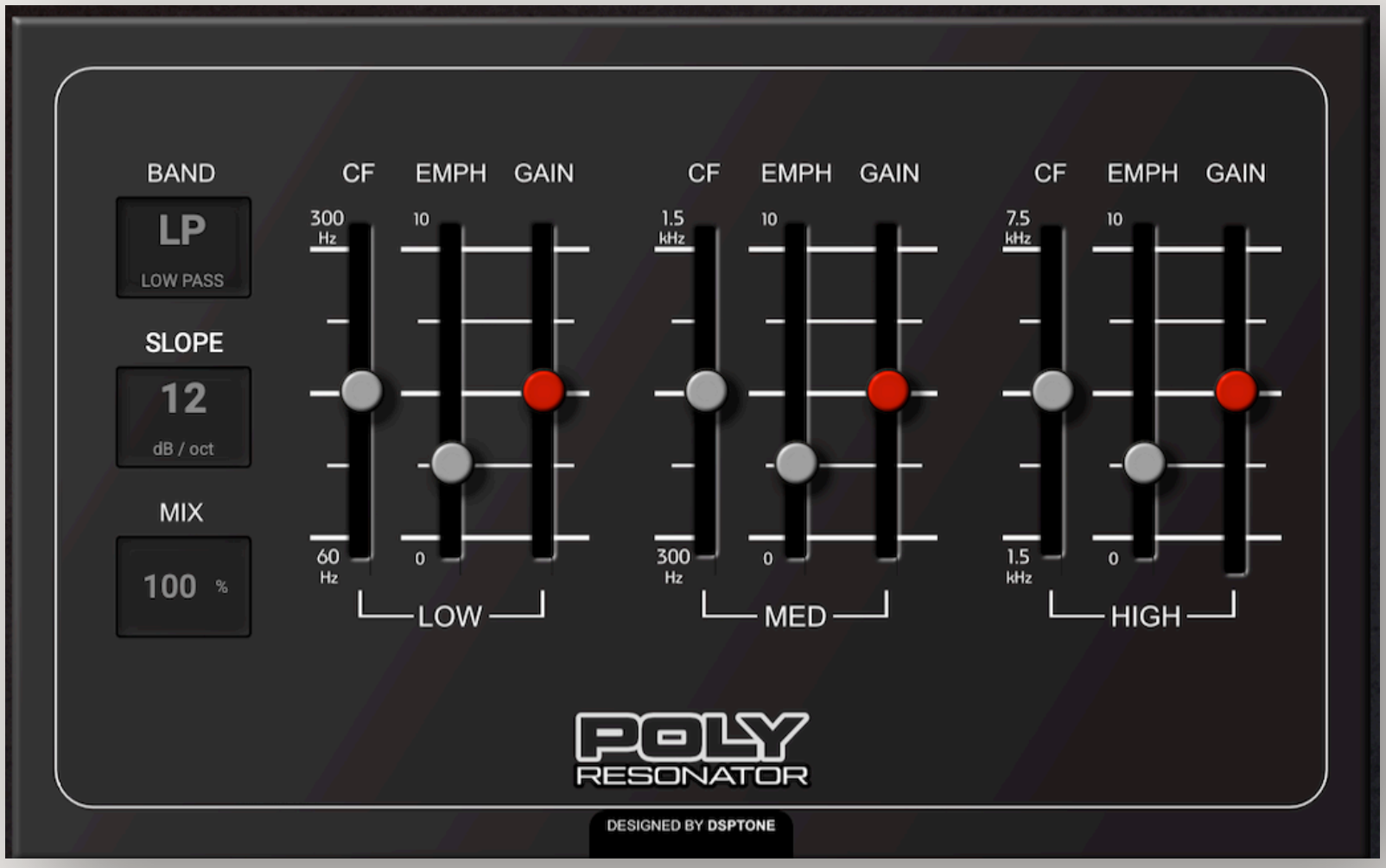
# POLYRESONATOR

Formant Sculpting Resonator PRODUCT MANUAL

DSPTONE




In the early days of electronic music, most synthesizers followed a predictable path VCO-VCF-VCA & Envelopes. Oscillators generated sound. Filters shaped it. Amplifiers controlled it.

But one instrument dared to go beyond traditional synthesis architecture – the Polymoog™.
Instead of merely filtering sound, it introduced something far more expressive: Resonance as a tonal sculptor. It was spectral shaping – decades before the term became common.
The resonator emphasized carefully chosen bands, creating vowel-like formants, animated timbres, and shimmering harmonic structures that felt almost acoustic. This is the kind of processor that makes musicians stop and ask: "What is creating that sound?"

**POLYRESONATOR** is not a strict replica – it is a respectful evolution. It introduces modern control, gain staging, and tonal engines designed for contemporary production workflows. At its heart lies a simple idea: ***Shape resonance – shape emotion***.

With three parallel bands, multiple filter modes, selectable saturation engines, and tuned internal headroom, POLYRESONATOR lets you explore territory that sits between filtering, formant synthesis, and harmonic enhancement.

Device invites you to step outside traditional synthesis and processing workflows. It is not about removing frequencies. It is about revealing hidden tone. Whether used subtly to enhance musicality or pushed into experimental territory, it offers a rare combination of vintage philosophy and modern flexibility.
Sometimes the most inspiring sounds come not from building something new, but from letting resonance bring it to life.

# FEATURES

## Formant Resonator Architecture

Three overlapping bands allow you to sculpt vocal-like tonal peaks and organic harmonic structures that traditional filters cannot achieve.

## Engine Circuit Modes

Switch between carefully tuned saturation behaviors:

**Original**: fast, articulate, vintage solid-state character

**Vintage**:  warmer response with smoother highs

**Bold**: dense and harmonically rich

**Console**: subtle preamp-style coloration

## Creative Filter Modes

Move beyond standard filtering:

**LP / HP**: for tonal shaping

**BPP (Peak)**: for resonant emphasis

**BPN (Notch)**: for spectral carving

Transform the processor from a gentle enhancer into a powerful sound-design tool.

Over time, producers discovered it could: simulate vocal articulations,  create ensemble richness,  push synths forward in dense arrangements,  add dimension without obvious effects.

# HOW TO USE

- Raise one band’s Emphasis.
- Sweep the CF (Center Frequency) slowly.

*You will immediately hear the sound “speak.”*

- Add a second band for complexity.
- Adjust Gain to balance energy.
- Select an Engine to shape harmonic density.
- Blend with Mix for parallel processing.
- Small moves often produce the most musical results.

# ENGINE MODES

Selects the internal saturation circuit:

| | |
|---|---|
| **ORIGINAL** | Based on original resonator diode scheme. Clear, energetic response. Fast, articulate, vintage solid-state character |
| **VINTAGE** | Based on tube amplification scheme. Smooth and warm. Warmer response with smoother highs |
| **BOLD** | Based on valve construction. Thick and powerful. Dense and harmonically rich |
| **CONSOLE** | Subtle console preamp-style coloration. Refined analog-style sound |

## Choosing the Right Engine

| Mode | Saturation | Harmonics | Feel |
|---|---|---|---|
| **ORIGINAL** | Low-Medium | Odd | Vintage electronic |
| **VINTAGE** | Medium | Even | Warmth & musical |
| **BOLD** | Medium-High | Rich | Huge & agressive |
| **CONSOLE** | Very Low | Subtle | Glue & polish |

# MORE DETAILS?

# ORIGINAL

Early resonator curcuit: sligtly non-linear, firm, and controlled rather than warm.

Fast clipping response, Strong odd harmonics,  Slight compression of peaks,  Keeps transients relatively tight,  Prevents resonant bands from exploding in level.

Formant-focused,  Mechanical / robotic edge, Great note articulation.

Good for:

- Emulating classic electronic textures
- Making pads sound like vintage machines
- Kraftwerk-style tonal shaping
- Tight bass resonances
- Sequenced synth lines

Wants the true resonator philosophy? This is the default mode.

## VINTAGE

Tube-style saturation introduces gentle nonlinearities that make the resonator feel less like a filter bank and more like a vibrating acoustic object.

Softer clipping curve, Strong even harmonics,  Natural micro-compression,  Slight transient rounding,  Perceived loudness increase without harshness.

Perception: Smooth,  Expensive,  Analog, Emotional, “Record-ready”.

Best to use for: Pads, Strings, Poly synths, Electric piano, Guitar, Vocals.

This is often the most musical mode.

## BOLD

Valve-style saturation behaves more dramatically than tube — it adds weight and authority, making the resonator sound bigger than the source.

Higher saturation ceiling,  Strong harmonic bloom,  Noticeable density increase,

Controlled but audible breakup when pushed, Enhances low-mid energy.

Perception: Huge, Cinematic,  Modern analog,  Powerful.

Best to use: Mono synth leads,  Bass, Drums, Industrial textures, Techno sound design.

“Sound suddenly enormous?” — twhat can be said about BOLD mode

## CONSOLE

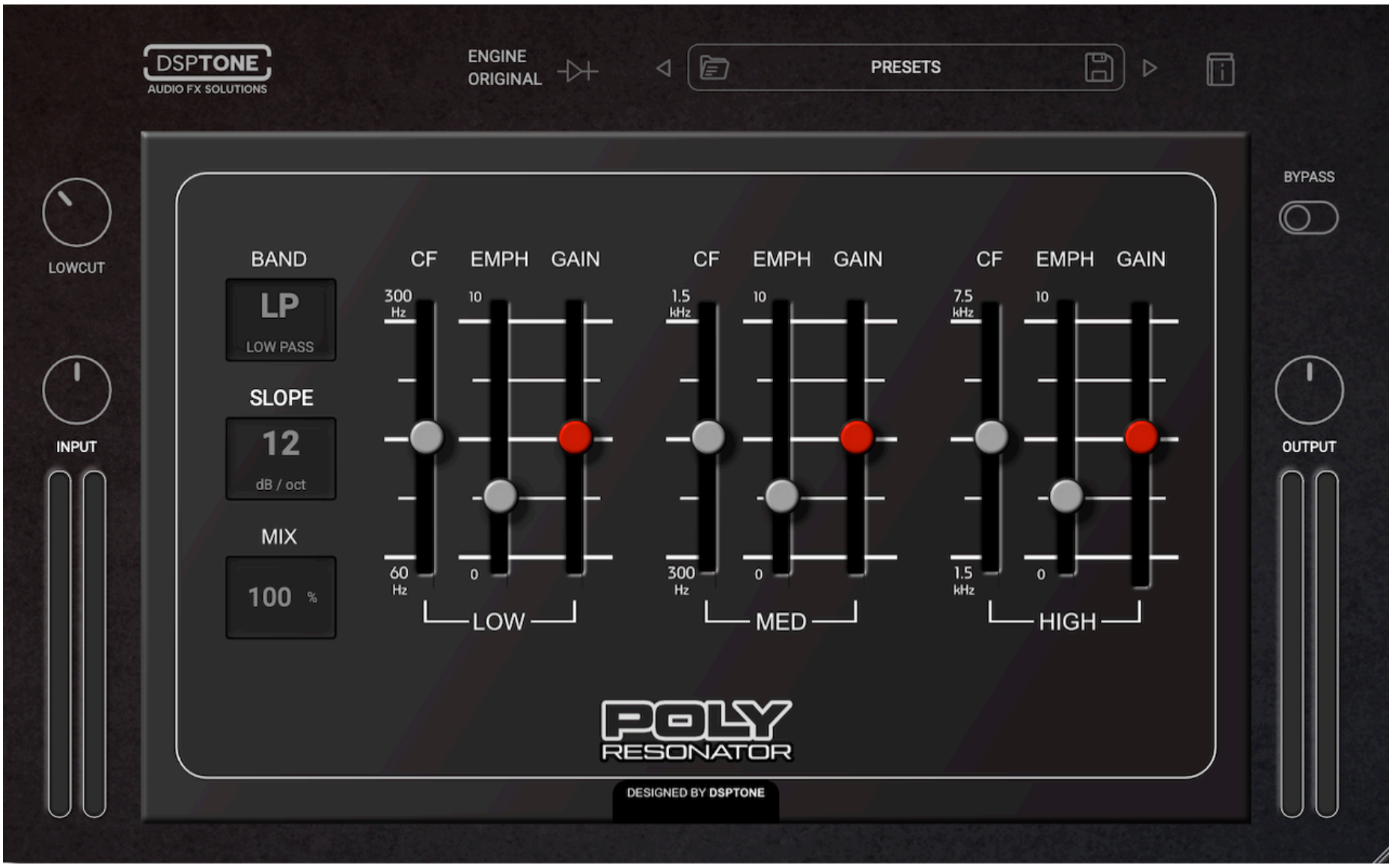
Preamp-style console saturation. This mode is more about gluing the resonator bands into one instrument.

Extremely subtle harmonic enhancement, Micro compression, Phase cohesion across bands, Slight high-frequency smoothing.

Perception: Professional,  Controlled, Hi-fi, Expensive mix bus.

Best to use for: Full mixes, Drum buses, Stereo synth layers, Parallel processing,  Master FX chains

When the resonator feels too “separated” or clinical, try to use Console.




# MAIN CONTROLS

| | |
|---|---|
| **LOW, MED , HI** | Parallel chain of the three bands. Have individual controls per band: |
| | **CF**: Center Frequency. Selects the frequency focus of each resonant band. |
| | **EMPHASIS**: Controls band resonance intensity. Higher values narrow the band and enhance formant character. |
| | **GAIN**: Adjusts the contribution of each band within the summed signal. |
| **FILTER MODE** | Switch between 4 global filter modes |
| | **LP**: LowPass filter, removes upper frequencies |
| | **BPP**: Peak Bandpass filter: emphasizes the selected frequency |
| | **BPN**: Notch Bandpass filter: attenuates the selected frequency |
| | **HP**: HighPass filter, removes lower frequencies |
| **SLOPE (HP, LP)** | Choose between 6 dB for gentle shaping or 12 dB for stronger filtering. |
| **SHAPE (BPP)** | Allowing for sharper or more pronounced resonant boosts |
| **PRE LC** | Pre High-Pass (LowCut) filter removes excessive low frequencies before the signal enters the resonator bands. This improves clarity, prevents low-end distortion, and allows the resonant bands to react more musically.<br>Lower settings retain weight and body, while higher settings emphasize articulation and formant detail. |
| **MIX** | Controls the mix level of the processed wet FX signal, blending it with the incoming unprocesed dry signal. |
| **INPUT** | Adjusts incoming signal level.  Range: −inf to +12 dB (Default: 0 dB) |
| **OUTPUT** | Adjusts final output signal level. Range: −inf to +12 dB (Default: 0 dB) |

# INTERFACE CONTROLS

| | |
|---|---|
| **LICENSE**<br>top right | Press to DSPTONE logo to open license information window with plugin version information |
| **PRESETS**<br>top center | Built-in preset browser. Click to preset name for preset selection in the browser or switch between presets by clicking to arrows.<br>Save button helps to save your preset to the local presets folder.<br>Open button - open local folder with effect device presets |
| **MANUAL**<br>top right | Press to Info icon to open operational manual for current plugin |
| **I/O METERS**<br>left & right | Individual Input and Audio meters placed at the left (input meter) and right (output meter) sides of the plugin interface for the gain staging control |
| **RESIZABLE UI**<br>bottom right | Helps to resize scale of the plugin interface for comfort work |

# TIPS & CREATIVE TECHNIQUES

## *CREATE VOCAL TEXTURE*

Boost the MID band with moderate emphasis and sweep between 600–900 Hz for vowel-like articulation.

## *ANIMATE STAIC SYNTH*

Use low emphasis on multiple bands rather than pushing one aggressively. Overlap creates movement without modulation.

## *TUNE YOUR DRUMS*

Focus the HI band around 2–4 kHz to add pitch-like presence to snares and percussion.

## *ADD ANALOG WEIGHT*

Switch to Vintage or Console engines and drive gently for subtle harmonic thickening.

## *PARALLEL MAGIC*

Set Mix between 30–60% to enhance tone while preserving the original transient detail.

## BEST USED BY INSTRUMENTS

- Pads & Strings
- Analog-style polysynhts
- Electric pianos
- Guitars
- Drum Buses
- Sound design layers
- Vocals

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**Shape resonance = shape emotion.**