Rave Generation

PRESENTS

SUPER CHORUS
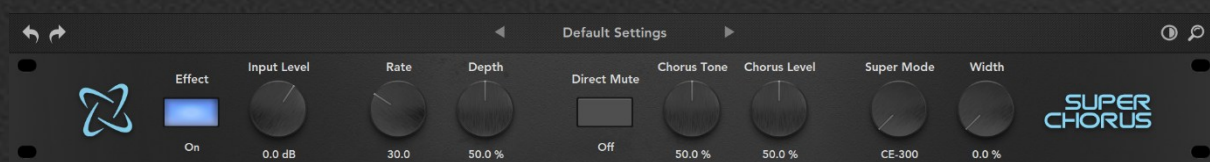
USER MANUAL

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1. Introduction

Super Chorus is an authentic emulation plugin that faithfully recreates three iconic chorus circuits from classic gear spanning four decades. From the warm, analog swirl of an 80s rack unit heard on countless dreamy guitar and synth tracks, to the bright, wide stereo chorus that defined 90s trance pads, to the fluid, expressive modulation behind the legendary hoover sound of mid-80s synths, Super Chorus captures the distinctive tones that shaped electronic music history.

Beyond faithful hardware emulation, Super Chorus introduces modern enhancements like stereo width control, variable mixing ratios, and comprehensive parameter access across all modes. Whether you're crafting lush 80s synthwave pads, adding movement to guitar tracks, or creating the massive chorus sweeps that define electronic music, this plugin provides the authentic character and modern flexibility to elevate your productions.

2. Key features

- Three authentic chorus algorithms: Modeled after CE-300, JP-8000 Super Chorus, and Alpha Juno 2 chorus circuits
- Hardware-accurate BBD simulation: Authentic bucket brigade delay characteristics with proper frequency response and modulation behavior
- Period-correct rate mapping: Logarithmic scaling for CE-300/JP-8000, linear mapping for Alpha Juno 2 (research-based authenticity)
- Integrated compression/expansion: Authentic compander processing (CE-300) and VCA-style dynamics (Alpha Juno 2)
- True stereo processing: Phase-inverted LFO modulation for authentic stereo imaging
- Modern enhancements: Stereo width control, variable dry/wet mixing, and tone shaping
- Direct Mute functionality: Authentic Direct Mute behavior per original hardware specifications
- Triangle wave LFO: Continuously variable rate control from 0.1-10Hz with interpolation
- BBD filtering simulation: Authentic high-frequency rolloff and analog warmth
- Low CPU usage: Optimized DSP algorithms for real-time performance

3. Quick-start

1. Insert Super Chorus on your desired track or send
2. Select a Mode based on your desired character:
   - CE-300 for warm analog vintage character
   - JP-8000 for modern digital precision with enhanced stereo
   - Alpha Juno 2 for classic Juno warmth with continuous control
3. Adjust Rate (1-100) to set LFO speed to taste
4. Set Depth (0-100%) for modulation intensity
5. Balance Chorus Level for dry/wet mix
6. Experiment with Width for stereo enhancement

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4. User interface

4.1 Main parameters

Control	Range	Description
EFFECT	on/off	Master bypass switch for the entire chorus effect
INPUT LEVEL	-20/+12 dB	Input gain control with soft saturation for analog warmth
RATE	1-100	LFO speed control - logarithmic for CE-300/JP-8000, linear for Alpha Juno 2
DEPTH	0-100 %	Modulation depth affecting BBD clock modulation intensity
DIRECT MUTE	on/off	Removes or reduces dry signal component (behavior varies per mode)
CHORUS TONE	0-100 %	High-frequency shaping of chorus signal (0%=dark, 100%=bright)
CHORUS LEVEL	0-100 %	Dry/wet balance with equal-power crossfading
SUPER MODE	3 modes	Selects the chorus algorithm and processing characteristics
WIDTH	0-100 %	Stereo width enhancement from normal (0%) to ultra-wide (100%)

4.2 Mode selection

The heart of Super Chorus lies in its authentic emulations of three legendary chorus circuits. Each mode has been analyzed and modeled to capture the unique characteristics that made these units classics.

CE-300 (1984) Warm analog vintage character with authentic compander processing. Features traditional BBD delay with integrated compression/expansion, cross-channel mixing for stereo width, and classic triangle wave LFO. Perfect for guitar, bass, and vintage synth sounds. Delivers the punchy, musical character that made the original CE-300 a studio staple.

JP-8000 (1997) Modern digital precision with "Super Chorus" architecture. Dual BBD design with enhanced stereo imaging, subtle feedback networks for slight flanging character, and precise digital control. Ideal for trance leads, modern synth patches, and any application requiring wide, pristine chorus effects.

Alpha Juno 2 (1985) Classic Juno warmth with continuously variable rate control. Features the legendary Alpha Juno 2's integrated compression/expansion, authentic MN3009 BBD characteristics, and research-accurate linear rate mapping. The sound that defined 80s electronic music and the legendary "hoover" bass sound.

4.3 Advanced features

Authentic Rate Mapping
Each mode uses period-correct rate scaling that matches the original hardware:
CE-300: Logarithmic scaling matching analog potentiometer response
JP-8000: Logarithmic scaling for musical frequency ratios
Alpha Juno 2: Linear scaling matching MIDI Parameter 34 implementation

Hardware-Accurate BBD Simulation
Each mode simulates different BBD characteristics:
CE-300: 2.5ms base delay with ±1.2ms modulation
JP-8000: 5.0ms base delay with ±2.0ms modulation
Alpha Juno 2: 3.0ms base delay with ±0.9ms modulation (±30% research-accurate)

Mode-Specific Processing
CE-300: Full compander with cross-channel mixing for vintage stereo width
JP-8000: Enhanced stereo processing with feedback networks and width control
Alpha Juno 2: VCA-style integrated compression with authentic linear rate response

Direct Mute Behavior
Each mode implements authentic Direct Mute functionality:
CE-300: Removes dry signal from cross-mixing matrix
JP-8000: Subtracts centered component for wide stereo effect
Alpha Juno 2: Compatible subtraction matching JP-8000 behavior

5. Signal flow & processing

CE-300 Mode: Input → Input Level → Compressor → BBD Delay + LFO → Expander → Filters → Cross-Mix → Width → Output

JP-8000 Mode: Input → Input Level → Dual BBD + LFO → Feedback → Filters → Width Enhancement → Output

Alpha Juno 2 Mode: Input → Input Level → VCA Compression → Dual BBD + LFO → VCA Expansion → Filters → Width → Output

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6. Tips & tricks

Mode selection guide

- **Guitar/Bass**: CE-300 for vintage analog warmth, JP-8000 for modern clarity
- **Synthesizers**: Alpha Juno 2 for classic 80s character, JP-8000 for trance/EDM
- **Vocals**: CE-300 for subtle movement, JP-8000 for wide stereo enhancement
- **Ambient**: All modes work well - experiment with high Width settings

Rate and depth combinations

- **Subtle movement**: Rate 10-25, Depth 20-40%
- **Classic chorus**: Rate 25-50, Depth 40-70%
- **Fast warble**: Rate 60-85, Depth 60-90%
- **Extreme effects**: Rate 85-100, Depth 80-100%

Alpha Juno 2 techniques

- **Linear rate mapping** provides even control across the entire range
- Try Rate 45-65 for the classic "hoover" sound character
- Higher rates (80-100) create the signature Alpha Juno warble
- Works exceptionally well on bass and lead synthesizers

JP-8000 Super Chorus

- **Enhanced stereo width** - push Width to 70-100% for massive stereo image
- Excellent for trance leads and wide pad sounds
- Combines beautifully with reverb for ethereal textures
- Try moderate settings (Rate 35-55) for classic 90s trance character

CE-300 vintage character

- **Authentic analog warmth** - the compander adds musical compression
- Excellent on electric guitars and bass guitar
- Try with Direct Mute for different tonal variations
- Lower rates (15-35) provide subtle vintage movement

Width enhancement tips

- **CE-300**: Width parameter provides modern enhancement to vintage algorithm
- **JP-8000/Alpha Juno 2**: Width enhances already-wide stereo processing
- Use Width sparingly on mix bus applications
- Combine with mid-side EQ for advanced stereo manipulation

Production techniques

- **Parallel processing**: Use at 100% wet on send/return for maximum flexibility
- **Automation**: Automate Rate for rhythmic effects and build-ups
- **Layering**: Different modes on different tracks for complex chorus textures
- **Stereo imaging**: Use Width parameter for final mix enhancement

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7. Installation & troubleshooting

7.1 System requirements

- Operating System: macOS 10.13+ or Windows 10+
- Processor: Intel Core i5 or equivalent
- RAM: 4 GB minimum (8 GB recommended)
- Plugin Formats: VST3, AU (macOS)
- DAW: Any compatible host (Logic Pro, Ableton Live, Studio One, FL Studio, etc.)

7.2 Installation process

1. Download the installer from the official website
2. Run the installer and follow on-screen instructions
3. Launch your DAW and rescan plugins if necessary
4. Locate "Super Chorus" in your plugin list

7.3 Troubleshooting

- Plugin not appearing: Ensure plugin path is correct in your DAW settings
- High CPU usage: Reduce oversampling if available, or increase buffer size
- Activation issues: Check internet connection and license key accuracy

Super Chorus by Rave Generation combines authentic vintage character with modern flexibility. Experience the legendary chorus sounds that shaped music history.

For more resources, updates, and preset packs, visit ravegeneration.io.