

# Qu-Bit — Nautilus

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## Qu-Bit Nautilus Eurorack Cheat Sheet

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### Overview

- Stereo, underwater-inspired delay network with 8 addressable delay lines (up to 20s each)
  - Multi-mode delays: Fade, Doppler, Shimmer, De-Shimmer
  - Advanced feedback, filtering, distortion, CV/gate outputs
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## Panel and Controls

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### Knobs

Knob	Function	CV Input (Range)
Mix	Wet/dry blend	Yes (-5V to +5V)
Resolution	Delay subdivision/multiplier (div/ mult clock rate: 512th to 2 bars)	Yes (-5V to +5V)
Feedback	Number of repeats; infinite at max	Yes (-5V to +5V, attenuverter assignable)

Knob	Function	CV Input (Range)
<b>Sensors</b>	Number of delay lines active (1–8)	Yes (-5V to +5V)
<b>Dispersal</b>	Spacing between delay lines (for polyrhythms & strums); fine tune at 1 sensor	Yes (-5V to +5V, attenuverter assignable)
<b>Reversal</b>	Controls which delay lines play backwards (per delay line, not just on/off)	Yes (-5V to +5V)
<b>Chroma</b>	Selects internal effect/filter in feedback path	Yes (-5V to +5V)
<b>Depth</b>	Amount of Chroma effect applied	Yes (-5V to +5V)

## Buttons

Button	Function
<b>Tap</b>	Sets internal clock rate or enters Tap Secondary Functions (see below)
<b>Freeze</b>	Freezes (loops) current buffer—creates beat repeat/glitch effects
<b>Purge</b>	Clears all delay lines
<b>Delay Mode</b>	Selects delay mode: Fade, Doppler, Shimmer (up), De-Shimmer (down)
<b>Feedback Mode</b>	Selects feedback network: Normal, Ping Pong, Cascade, Adrift

## Tap Secondary Functions (Hold Tap)

- **+ Purge:** Resets input level/delay mode/feedback mode to default
  - **+ Dispersal Attenuverter:** Adjusts input gain (-12dB to +12dB, indicated by left LEDs)
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## Inputs & Outputs

Jack	Function/Type	Range / Notes
<b>Left In</b>	Audio Input (left, AC-coupled)	10Vpp
<b>Right In</b>	Audio Input (right, AC-coupled)	10Vpp (norms from left if none plugged in)
<b>Left Out</b>	Audio Output (left)	10Vpp
<b>Right Out</b>	Audio Output (right)	10Vpp
<b>Clock In</b>	Gate Input for clock sync	Threshold: 0.4V; Range: 0.25Hz–1kHz
<b>Freeze In</b>	Gate (mirrors Freeze button)	Threshold: 0.4V
<b>Purge In</b>	Gate (mirrors Purge button)	Threshold: 0.4V
<b>Mix CV</b>	CV control of Mix knob	-5V to +5V
<b>Resolution CV</b>	CV for subdivision/multiplier	-5V to +5V
<b>Feedback CV</b>	CV control of Feedback	-5V to +5V (attenuverter assignable)

Jack	Function/Type	Range / Notes
<b>Sensors CV</b>	CV for number of delay lines	-5V to +5V
<b>Dispersal CV</b>	CV for delay spacing	-5V to +5V (attenuverter assignable)
<b>Reversal CV</b>	Which delay lines are reversed	-5V to +5V
<b>Chroma CV</b>	Chroma internal FX selection	-5V to +5V
<b>Depth CV</b>	Depth/amount of effect	-5V to +5V
<b>Sonar Out</b>	Algorithmic CV or gate based on delay topology	CV: 0–5V; Gate: +5V (50% duty cycle); type set via software; patchable as mod source or clock pass-through

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## Chroma Effects

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- **Blue:** Oceanic Absorption – 4-pole lowpass filter
- **Green:** White Water – 4-pole highpass filter
- **Purple:** Refraction Interference – Variable bitcrusher/sample rate
- **Orange:** Pulse Amplification – Soft/warm saturation
- **Cyan:** Receptor Malfunction – Wavefolding distortion
- **Red:** SOS – Heavy distortion

*Depth* knob controls intensity (except bitcrusher is random stepped).

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# Delay Modes (Button cycles)

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- **Fade** (blue): Smooth interpolation of delay time (no pitch artifacts)
  - **Doppler** (green): Classic vari-speed pitch effect on time change
  - **Shimmer** (orange): Octave-up pitch shift in feedback path (configurable semitones via USB)
  - **De-Shimmer** (purple): Octave-down pitch shift (configurable)
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# Feedback Modes

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Mode	Behavior
Normal	Standard stereo matched to input
Ping Pong	Alternates left/right in feedback
Cascade	Delays in serial per channel for extra-long delay
Adrift	Cross-channel serial cascade/collage

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# Other Features

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- All CV inputs are -5V to +5V; assignable attenuverters for fine CV mapping
  - Onboard USB-A for firmware/configuration via Narwhal web app—no drive required to operate, any FAT32 USB sticks supported
  - Lifetime free repairs (excl. cosmetic/damage abuse)
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# Links

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