

Vermiform

Monophonic speech synth with a corruption engine.

A monophonic speech instrument with seven voice families, 64 stepped modes and an editable memory-corruption engine (the worm). It is inspired by the ERD/WORM manual's chip families; it is an original implementation, not a ROM emulator. Speech is deliberately robotic.

The historic speech clock runs at 8 kHz at normal Speed. DSP runs in embedded gen~; JavaScript handles speech frames, text, MIDI and corruption.

CORES AND MODES

1 Speak & Worm	modes 1-21	ten-stage LPC lattice
2 Intelliworm	modes 22-28	allophone-driven cascade
3 Vermis	modes 29-36	parallel formant resonators
4 Saw	modes 37-46	quantized formants, low resolution
5 Digiwormer	modes 47-49	quarter-wave symmetry, segment bit rot
6 Wormant	modes 50-62	five-formant network with nasal zeros
7 Compost	modes 63-64	stereo ring-buffer loop / freeze

QUICK START

- 1 Load on a MIDI track, arm it and play notes, or enable **DRONE** for continuous speech. Drone holds until you switch it off and ignores the transport.
- 2 Choose a **core**, then a **submode**. Together they set the single automatable **Mode** (1-64); the labels over X, Y and Z follow the mode.
- 3 In a TTS mode (7, 24, 30, 39, 40) type up to 160 characters and press **SPEAK**.
- 4 Turn up **Worm Rate** and **Depth** to start corrupting the working speech frames. **CORRUPT** applies one event; **RESTORE** discards the mutations.
- 5 **STOP** silences the instrument and restores clean working frames.

CONTROLS

PERFORMANCE

CONTROL	RANGE	WHAT IT DOES
Core / Submode / Mode	Mode 1-64	Two selectors drive one stepped Mode parameter. It jumps discretely under automation, on purpose.
Speed	64 = normal	Speech clock. 1/32 stretches the whole clock.
X, Y, Z	mode-dependent	Pitch, bend, duration, step index and so on; labels follow the mode.
DRONE	toggle	Continuous speech until switched off (same effect as STOP).

CONTROL	RANGE	WHAT IT DOES
ARM / TRIGGER	buttons	ARM mutes continuous playback until Trigger. Trigger restarts a phrase, or toggles freeze in modes 28, 35 and 64. A manual Trigger without Drone plays one phrase.
STOP	button	Silences and restores clean frames.
TEXT AND LISTS		
Text / SPEAK	160 characters	TTS modes only. The supplied vocabulary has explicit pronunciations; other English words use a compact spelling-to-phoneme parser. Y selects a character position and Z changes its letter.
List modes	16 slots	The position control picks a slot and Z writes an allophone into it. Text and the phoneme list are saved with the device.
WORM ENGINE		
Rate	0, about 0.1-20 events/s	Zero disables scheduled corruption and restores the clean source.
Depth	-	How strongly each event changes the working frame.
Jitter	-	Bounded, correlated coefficient or pitch drift.
Frame bleed	-	Borrow data from another allophone.
Bit rot	-	Alter quantized coefficient bits or decoded segment resolution.
Loop lock	-	Alternate between repeating the current phoneme and advancing.
Order swap	-	Reorder reflection coefficients or formants, or reverse the segment address.
CORRUPT / RESTORE	buttons	Apply one event, or discard mutations and release Loop lock.

NOTES

MIDI

Pitch transposes around middle C. Note priority is last played; sustain is CC 64; pitch bend is +/-2 semitones. Note-off closes the output gate once the last held or sustained note is released.

Compost (modes 63-64)

Keeps synthesizing the last speech mode with its previous settings into a ring of 524,288 stereo samples (about 11.9 s at 44.1 kHz). X moves the loop start, Y sets its length, Z blends overlapping windows. Mode 64's Trigger freezes and unfreezes writing. The scope shows the ring and the live write and read positions. The ring is volatile and is not saved in a Live Set.

Banks

First controller bank: Mode, Speed, X, Y, Z, Worm Rate, Worm Depth, Trigger. No Rack with macro knobs is needed or bundled.

Not included

External-audio excitation and polyphonic layering. No original WORM firmware, chip ROMs or extracted vocabularies are included; phrases and allophone coefficients are newly authored.

STATUS

A native test harness records all modes for analysis, and controller tests exist. Treat the sound as unverified until you have played it in Live.